MASS. ATB 1.2: B65

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COMMONWEALTH OF MASSACHUSETTS

APPELLATE TAX BOARD

BOSTON EDISON COMPANY v. BOARD OF ASSESSORS OF THE CITY OF EVERETT

Docket Nos. 113120, 117494, 126060, 131839, 140245, 140246, 140248, 145330, 145331, 145332, 148122, 148123, 148124, 148125, 148126, 152500, 152501, 152502, 152503, 152504, 166407, 166408, 166409, 167167, 167168, 167169, 174542, 174543, 174544

Promulgated: December 20, 1996

These are appeals under the formal procedure pursuant to G.L. c. 59, §§ 64 and 65, as amended, from the refusal of the appellee to abate taxes on certain real estate and personal property in the City of Everett owned by and assessed to the Appellant under G.L. c. 59, § 38, primarily for fiscal years 1984 through 1990, but, on a certain portion of real estate, for fiscal years 1980 through 1983, as well.

Commissioner Scharaffa heard the appeals and was joined in the decisions for docket numbers 113120, 117494, 126060, 131839, 140248, 148126, 152504, 166407, 167169, and 174542 by Commissioners Wall, Lomans, and Burns. He was joined in the decisions for the remaining appeals by Commissioners Wall and Lomans, with Commissioner Burns abstaining. Commissioner O'Brien dissented in all docket numbers but concurred with the Board's analysis in some respects as more fully explained in his appended opinion.

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These findings of fact and report are made pursuant to requests made by both parties under G.L. c. 58A, § 13, as amended, and 831 CMR 1.32.

George Marshall Moriarty, Esq. and *Martin J. Newhouse,* Esq. for the Appellant.

Walter H. McLaughlin, Jr., Esq., *Michael Eby*, Esq., and *David L. Klebanoff,* Esq. for the Appellee.

FINDINGS OF FACT AND REPORT

Introduction

The Appellant, Boston Edison Company ("Boston Edison"), is[1] an operating Massachusetts public utility incorporated on January 8, 1886 under the provisions of P. S. c. 106, §§ 6-20 (now G.L. c. 164, §§ 5 *et seq.*). Its present name was authorized by St. 1937, c. 217. Boston Edison is engaged primarily in the business of manufacturing, selling, transmitting and distributing electricity.

The property involved in these appeals is an electrical generating station or power plant known as the Mystic Station in Everett, Massachusetts ("Mystic Station" or "Mystic"). It also includes a piece of vacant land referred to as the "Monsanto" parcel. The fiscal years at issue in these appeals are 1984 through 1990 for Mystic and 1986 through 1990 for Monsanto. In addition, the parties stipulated to all of the necessary facts for the Appellate Tax Board ("Board") to decide valuation issues pertaining to a related parcel, located on Robin and Rover Streets, for fiscal years 1980 through 1983. Fiscal year 1984 is also in issue for this related parcel.

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[1] Use of the present tense in these Findings refers to facts in existence as of the relevant assessment dates.

On the preceding January 1 of each relevant fiscal year, the assessors assessed real estate and personal property taxes on Mystic as follows:

Docket Number	Fiscal Year	Assessed Value	Tax Rate Per $1,000	Taxes Assessed
140245 & 140246	1984[2]	$ 99,605,100	$122.80	$12,231,506.28
145330, 145331 & 145332	1985	$407,274,586	$ 25.40	$10,344,774.49
148122, 148123, 148124 & 148125	1986	$410,644,486	$ 26.22 $ 13.56[3]	$10,765,917.22
152500, 152501, 152502 & 152503	1987	$410,648,034	$ 25.83 $ 13.37[3]	$10,605,876.17
166408 & 166409	1988	$491,326,800	$ 23.17	$11,384,041.96
167167 & 167168	1989	$491,526,800	$ 23.82	$11,708,168.38
174543 & 174544	1990	$491,526,800	$ 24.74	$12,160,373.03

On the preceding January 1 of each relevant fiscal year, the assessors assessed real estate taxes on Monsanto as follows:

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[2] The parties agree that the equalized assessed value and tax rate for FY 1984 are $566,810,000 and $21.60, respectively.

[3] A portion of the assessment was taxed at the residential rate.

Docket Number	Fiscal Year	Assessed Value	Tax Rate Per $1,000	Taxes Assessed
148126	1986	$1,949,736	$26.22	$ 51,122.08
152504	1987	$1,949,736	$25.83	$ 50,361.68
166407	1988	$4,793,600	$23.17	$111,067.71
167169	1989	$4,793,600	$23.82	$114,183.55
174542	1990	$4,793,600	$24.74	$118,593.66

On the preceding January 1 of each relevant fiscal year, the assessors assessed real estate taxes on the parcel located on Robin and Rover Streets as follows:

Docket Number	Fiscal Year	Assessed Value	Tax Rate Per $1,000	Taxes Assessed
113120	1980	$122,500	$141.20	$17,297.00
117494	1981	$122,500	$139.60	$17,101.00
126060	1982	$122,500	$118.00	$14,455.00
131839	1983	$122,150	$120.20	$14,682.43
140248	1984	$122,150	$122.80	$15,000.02

The necessary information for determining the Board's jurisdiction for each appeal is summarized below:

Docket Number	Fiscal Year	Tax Bill Sent (* = Estimated)	Tax Paid	Amount of Tax Paid	Abatement Application (AA) Filed	AA Denied or Deemed Denied	Appeal Filed with Board
113120	1980	11/28/79 03/12/80	12/07/79 05/01/80	$ 8,648.50 8,648.50	12/17/79	03/17/80	06/10/80
117494	1981	12/03/80 --	01/02/81 05/01/81	$ 8,550.50 8,550.50	01/02/81	04/02/81	04/24/81
126060	1982	12/15/81 --	12/31/81 05/03/82	$ 7,227.50 7,227.50	01/14/82	04/14/82	07/13/82
131839	1983	09/30/82* 04/06/83	11/01/82 05/06/83	$ 7,206.85 7,475.58	05/05/83	08/05/83	11/01/83
140245	1984	10/21/83* 07/20/84	10/27/83 08/20/84	$3,267,853.36 3,409,224.72	08/20/84	11/20/84	12/20/84
140246	1984	11/04/83* 07/20/84	12/05/83 08/02/84	$2,718,413.15 2,836,015.05	08/20/84	11/20/84	12/20/84
140248	1984	10/21/83* 07/20/84	10/27/83 08/20/84	$ 7,341.22 7,658.80	08/20/84	11/20/84	12/20/84

Docket Number	Fiscal Year	Tax Bill Sent (* = Estimated)	Tax Paid	Amount of Tax paid	Abatement Application (AA) Filed	AA Denied or Deemed Denied	Appeal Filed with Board
145330	1985	10/31/84*	11/30/84	$ 69,068.86			
		05/28/85	06/27/85	2,588.58	06/27/85	09/27/85	11/07/85
145331	1985	10/31/84*	11/30/84	$3,515,668.83			
		05/28/85	--	no pmt needed	06/27/85	09/27/85	11/07/85
145332	1985	10/31/84*	11/30/84	$2,777,214.10			
		05/28/85	06/27/85	5,502,019.41	06/27/85	09/27/85	11/07/85
148122	1986	01/06/86	02/05/86	$4,273,257.93	02/05/86	05/05/86	07/30/86
		03/31/86	05/01/86	4,273,257.92			
148123	1986	01/06/86	02/05/86	$1,041,423.69	02/05/86	05/02/86	07/30/86
		03/31/86	05/01/86	1,041,423.68			
148124	1986	01/06/86	02/05/86	$ 36,985.40	02/05/86	05/02/86	07/30/86
		03/31/86	05/01/86	36,985.39			
148125	1986	01/06/86	02/05/86	$ 31,291.61	02/05/86	05/02/86	07/30/86
		03/31/86	05/01/86	31,291.60			
148126	1986	01/06/86	02/05/86	$ 25,561.04	02/05/86	05/02/86	07/30/86
		03/31/86	05/01/86	25,561.04			
152500	1987	11/28/86	12/29/86	$1,025,979.23	12/12/86	03/11/87	04/14/87
		03/27/87	05/01/87	1,025,979.22			
152501	1987	11/28/86	12/29/86	$4,209,696.88	12/12/86	03/12/87	04/14/87
		03/27/87	05/01/87	4,209,696.88			
152502	1987	11/28/86	12/29/86	$ 36,435.27	12/12/86	03/11/87	04/14/87
		03/27/87	05/01/87	36,435.27			
152503	1987	11/28/86	12/29/86	$ 30.826.71	12/12/86	03/11/87	04/14/87
		03/27/87	05/01/87	30,826.71			
152504	1987	11/28/86	12/29/86	$ 25,180.84	12/12/86	03/11/87	04/14/87
		03/27/87	05/01/87	25,180.84			
166407	1988	12/18/87*	01/19/88	$ 25,180.84			
		05/31/88*	06/30/88	25,180.84			
		10/14/88	11/14/88	60,706.03	11/14/88	02/10/89	05/09/89
166408	1988	12/18/87*	01/19/88	$4,209,696.88			
		05/31/88*	06/30/88	4,209,696.88			
		10/14/88	--	no pmt needed	11/14/88	02/14/89	05/09/89
166409	1988	12/18/87*	01/19/88	$ 30,826.71			
		12/18/87*	01/19/88	1,025,979.23			
		12/18/87*	01/19/88	36,435.27			
		05/31/88*	06/30/88	30,826.71			
		05/31/88*	06/30/88	1,025,979.23			
		05/31/88*	06/30/88	36,435.27			
		10/14/88	11/14/88	838,871.81	11/14/88	02/10/89	05/09/89
167167	1989	12/05/88	01/04/89	$ 243,598.81	01/04/89	04/04/89	05/30/89
		03/28/89	05/01/89	243,598.80			
167168	1989	12/05/88	01/04/89	$5,610,485.39	01/04/89	04/03/89	05/30/89
		03/28/89	05/01/89	5,610,485.38			
167169	1989	12/05/88	01/04/89	$ 57,091.78	01/04/89	04/03/89	05/30/89
		03/28/89	05/01/89	57,091.77			
174542	1990	11/17/89	12/06/89	$ 59,296.83	12/08/89	01/08/90	03/28/90
		03/30/90	05/01/90	59,296.83			

Docket Number	Fiscal Year	Tax Bill Sent (* = Estimated)	Tax Paid	Amount of Tax paid	Abatement Application (AA) Filed	AA Denied or Deemed Denied	Appeal Filed with Board
174543	1990	11/17/89 03/30/90	12/06/89 05/01/90	$ 253,007.32 253,007.32	12/08/89	02/12/90	03/28/90
174544	1990	11/17/89 03/30/90	12/06/89 05/01/90	$5,827,179.20 5,827,179.19	12/08/89	01/08/90	03/28/90

On this basis, the Board found that it had jurisdiction to decide these appeals.

Exclusive of motions, the Board held twenty-six days of evidentiary hearings, over a three-month period. A total of eleven witnesses testified, of whom nine were qualified as experts. One hundred and sixty exhibits were marked into evidence. The parties presented final arguments to the full Board. The Board visited and viewed the power plant twice.

The parties agreed that the primary issues to be decided by the Board are the values of the power plant and the transmission property on the site, plus the values of the land, for the years at issue, as compared to the relevant assessments. The parties stipulated to the land values to be used for the plant site in connection with any reproduction or replacement cost approach. They also agreed on the net book cost of the Appellant's personal property and real estate (excluding the Monsanto land) located in Everett.

Disproportion is an issue in only one fiscal year, 1984. For that year, the parties agreed that the equalized tax rate to be applied is $21.60 per thousand dollars of valuation.

Boston Edison claims that some of its property is used in the abatement of water and air pollution, and is, therefore, entitled to an exemption under G.L. c. 59, § 5, cl. 44. While the assessors disagree with the application of this exemption, they do not contest which property is eligible for the exemption, assuming its application.

The Robin and Rover Streets Property

The property located on Robin and Rover Streets consists of a small, 44,396 square-foot parcel improved with a cinder-block building. It adjoins the Mystic facility. The parties stipulated to this property's value as of January 1, 1979, 1980, 1981, and 1982. They also stipulated to the equalized tax rates for fiscal years 1980 through 1983, and the abatements due to Boston Edison for these fiscal years. Accordingly, the Board adopted the parties' stipulations and found as follows:

Docket Number	Fiscal Year	Fair Cash Value	Eq. Tax Rate (per $1000)	Tax Due	Taxes Assessed	Abatement
113120	1980	$122,500	$42.71	$5,232	$17,297.00	$12,065.00
117494	1981	$122,500	$33.90	$4,153	$17,101.00	$12,948.00
126060	1982	$122,500	$28.79	$3,527	$14,455.00	$10,928.00
131839	1983	$122,150	$21.10	$2,577	$14,682.43	$12,105.43

For fiscal year 1984, the Board found that the property's fair cash value on January 1, 1983 was the same as the previous year's value and that the Massachusetts Department of Revenue's equalized-tax-rate determination of

$21.60 per $1000 of fair cash value for locally taxable property in Everett was the appropriate tax rate to apply. The parties also stipulated to the Board's application of this equalized tax rate. On this basis, the Board computed an abatement as follows:

Docket Number	Fiscal Year	Fair Cash Value	Eq. Tax Rate (per $1000)	Tax Due	Taxes Assessed	Abatement
140248	1984	$122,150	$21.60	$2,638.44	$15,000.02	$12,361.58

The Monsanto Property

The irregularly-shaped Monsanto site, which was purchased by Boston Edison from the Monsanto Company on June 28, 1983 for $1,100,000, consists of a total of 34.96 acres in Boston and Everett. Of the 29.51 acres in Everett, 27.63 are above the pier and bulkhead line and 1.88 are seaward of the pier and bulkhead line. 21.56 acres are considered upland; the remainder is submerged. The Monsanto parcel is located on the westerly side of Alford Street which is the opposite side of Alford Street from the generating plant. The property has frontage on Chemical Lane in two courses, namely 248.05 feet and 475.86 feet, as well as water frontage along the Mystic River and along a 100-foot-wide and 18-foot-deep, dredged-out basin.

While the parcel is largely undeveloped above ground, it has many surface and subsurface utilities, such as a six-inch high-pressure gas line, water intake pipes from the property bulkhead, pumps, transformers, and electrical transmission facilities. These utilities are not owned by Boston Edison, but rather serve either the Monsanto Company or New England Power Company. The property is encumbered with eleven easements which were either created or transferred at the time of the conveyance from the Monsanto Company to Boston Edison. Many of the easements could be relocated at Boston Edison's request and expense.

The parcel is zoned for industrial use. Under Everett zoning, there are few, if any, restrictions on lot size, setback, frontage or side yards. A front yard setback of twenty feet applies. Buildings up to six stories or 100 feet in height are permissible.

The parties' experts testified and the Board found that the highest and best use of this property is for distribution and storage. Some typical distribution and storage businesses for which the property is suitable include a lumber yard, an automotive terminal and storage facility, a warehouse, a marshaling yard, a place for wholesale merchandising, an area for motor vehicle service and repair, a transportation terminal, a contractor's yard, and a boat storage site.

In developing a value for the Monsanto parcel for fiscal year 1986, the first year at issue, both parties' experts relied exclusively upon the comparable sales approach. They then adjusted that value for the four subsequent years on appeal. In their methodology, both experts attributed value to only the upland property, and valued that portion as vacant land.

Martin J. Coleman, Jr. of Coleman & Sons testified for Boston Edison. He relied primarily on the June 28, 1983 sale of the subject property in allocating a $1.00 per-square-foot value for January 1, 1985. Mr. Coleman also utilized seven comparable sales to assist in his valuation of the Monsanto property. His comparable sales data is as follows:

Sale	Date	Upland Area in Acres	Upland Price per Acre	Upland Price per Square Foot	Total Price for Uplands
1	06/80	48.90	$10,224	$0.23	$ 500,000
2	11/83	115.25	$14,907	$0.34	$1,718,000
3	12/80	6.917	$73,731	$1.69	$ 510,000
4	05/81	13.13	$91,400	$2.09	$1,200,000
5	06/28	28.66	$38,381	$0.88	$1,100,000
6	08/85	8.79	$65,000	$1.49	$ 571,350
7	08/85	16.21	$65,000	$1.49	$1,053,650

While Mr. Coleman referred to some possible contamination on the property, he failed to demonstrate, convincingly, its actual existence or its potential effect on value. Consequently, the Board did not consider this factor in its determination of fair cash value for this property. Mr. Coleman accounted for appreciation by doubling the per-square-foot price in fiscal year 1988. His valuations of this property are set forth below.

Fiscal Year	Square Feet	$/Square Foot	Appraised Value
1986	1,203,563	1.00	$1,203,500
1987	1,203,563	1.00	$1,203,500
1988	1,203,563	2.00	$2,407,000

Fiscal Year	Square Feet	$/Square Foot	Appraised Value
1989	1,203,563	2.00	$2,407,000
1990	1,203,563	2.00	$2,407,000

In valuing the Monsanto property, the Board gave some weight to Mr. Coleman's sale number 3 which occurred on December 31, 1980 in South Boston for $510,000 or approximately $74,000 per acre. However, the Board adjusted upward the sale price of sale number 3 to reflect not only the age of the sale, but that property's unusual shape, limited frontage, and lack of water access. In addition, the Board gave some weight to sale number 4 on which the assessors' expert also relied. The Board considered but did not find sales numbered 1, 2, 6, and 7 listed by Mr. Coleman to be comparable to the subject property because of differences in their sizes, shapes, topographical features, locations, potential highest and best uses, and in particular, their lack of frontage on the Mystic River.

Edmund S. Balboni of the Beal Companies testified for the assessors. He relied on five sales of properties which he deemed comparable. He did not rely on the sale of the subject property in 1983 to Boston Edison because, in his opinion, Boston Edison purchased only a "partial interest" in the property. On the basis of his five comparables, Mr. Balboni determined that $125,000 per acre was a reasonable value to assign the subject property for fiscal year 1986. He also concluded that the site could potentially be used for a power plant without being adversely impacted by the easements. His comparable-sales data is depicted below:

Sale	Date	Upland Area in Acres	Upland Price per Acre	Upland Price per Square Foot	Total Price for Uplands
1	12/85	8.06	$161,300	$3.70	$1,300,000
2	05/81	13.13	$ 91,400	$2.10	$1,200,000
3	12/86	14.50	$396,000	$9.09	$5,740,000
4	05/82	3.00	$116,000	$2.68	$ 350,000
5	05/84	6.00	$162,000	$3.73	$ 975,000

Mr. Balboni adjusted upward his $125,000-per-acre value by $25,000 each year to account for, what in his opinion was, a rising market. His valuations of the subject property for each of the fiscal years at issue are set forth below:

Fiscal Year	Upland Area in Acres	Value per Acre	Appraised Value
1986	21.56	$125,000	$2,695,000
1987	21.56	$150,000	$3,234,000
1988	21.56	$175,000	$3,773,000
1989	21.56	$200,000	$4,312,000
1990	21.56	$225,000	$4,851,000

The Board found that Mr. Balboni's selections of the sales numbered 1, 2, 4, and 5, above, were indeed comparable to the subject. The Board noted that Mr. Coleman also chose sale number 2 as a comparable property in his analysis (Mr. Coleman's sale number 4). The Board did not regard Mr. Balboni's sale number 3 as comparable, however, because of its superior location on Medford Street in Charlestown.

The Board considered but gave minimal weight to the sale of the subject property in 1983 (Mr. Coleman's sale number 5). In the Board's opinion, the sale price stated on the deed did not accurately reflect the fair market value of the property. Eleven easements were created or retained by Monsanto at the time of the sale. Additional existing easements ran to New England Power Company and others. Under these circumstances, the Board agreed with the assessors' assertion that the transaction reflects more of a division of rights in the property between the seller and the buyer than a pure sale. Viewed in another way, the seller received more consideration than just the stated purchase price of $1,100,000, namely, the fair market value of the retained easements.

In addition, many of the easements retained by Monsanto could be relocated at Boston Edison's request and expense, and some of them might actually serve the site under certain scenarios, such as the gas line and power line easements. Accordingly, any adverse effects on the value of this property created by the easements were diminished.

Additionally, the Board found that the sale was not an arms-length transaction. The Board noted that the buyer and seller were essentially abutters, and the property was never exposed to the open market for any appreciable period before the sale. The Board also observed that neither party to the sale evidenced any desire to use the vacant property at its highest and best use either before or after the sale.

Consequently, they may not have adequately considered these potential uses in setting the sale price. Even Boston Edison's own appraiser considered other factors, including a supposed pollution stigma, in valuing the property at a figure higher than the sale price. Accordingly, the Board did not regard this sale as representative of an arms-length transaction.

On this basis, the Board found that Mr. Balboni's $125,000-per-acre valuation of the subject on January 1, 1985 for fiscal year 1986 was reasonable. However, the Board further found that his $25,000-per-year appreciation adjustment, which he applied to each of the other fiscal years in issue, was excessive under the circumstances. Relying on its own expertise and knowledge of the market in Everett for the relevant time period, as well as Mr. Coleman's observations regarding the stability of the market in fiscal years 1988 through 1990, the Board determined that a ten-percent adjustment between fiscal years 1986 and 1987, as well as 1987 and 1988, was the most appropriate adjustment. The Board also found that there was little, if any, appreciation in value for this type of property in Everett between fiscal years 1988 and 1990. The Board's valuations of the subject property during the years at issue, and the concomitant abatements, if any, are set forth below:

Fiscal Year	Assessed Value	Fair Cash Value	Over Valuation	Tax Rate	Tax Abatement
1986	$1,949,736	$2,695,000	--	$26.22	$ 0
1987	$1,949,736	$2,965,000	--	$25.83	$ 0
1988	$4,793,600	$3,261,000	$1,532,600	$23.17	$35,510.34
1989	$4,793,600	$3,261,000	$1,532,600	$23.82	$36,506.53
1990	$4,793,600	$3,261,000	$1,532,600	$24.74	$37,916.52

Pollution Abatement Property Located on the Mystic Property

Boston Edison claimed a tax exemption, under G.L. c. 59, § 5, cl. 44, for certain property incorporated into the Mystic facility which is used in the abatement of air or water pollution. This property includes, among other things, waste-water holding tanks, sludge de-watering facilities, thermal barriers, electrostatic precipitators, and scrubbers. It was undisputed that the pollution-control property was installed and in operation before January 1, 1983. It was also undisputed that the appropriate state air and water pollution control authorities did not certify the effectiveness of the property until August and November of 1985. The parties agree that the assessors were first notified about the existence and certification of this pollution control property on August 27, 1985 and November 13, 1985. For reasons more fully discussed in its Opinion below, the Board found that Boston Edison was not eligible for this exemption until fiscal year 1987.

The parties stipulated to the total net book cost of the Mystic property and the net book cost of the pollution control property. As proposed to the Board by Boston Edison, and as found by the Board in the table below, a comparison of the net book cost of the pollution control property to the total net book cost of the Mystic property reveals the percentage of property devoted to pollution control in each of the relevant fiscal years.

Fiscal Year	Total Net Book Cost of Mystic Property	Net Book Cost of Pollution Control Property	Percentage of Property Devoted to Pollution Control
1987	$242,019,077	$44,789,350	18.5%
1988	$237,657,793	$46,807,928	19.7%
1989	$234,759,319	$44,836,800	19.0%
1990	$257,612,654	$59,754,336	23.2%

Because the exempt property was not subject to tax, the Board ordered an abatement of that part of the total assessment which was based on the assessed value of the pollution control equipment. To determine the assessed value of the exempt property in each relevant fiscal year, the Board followed Edison's suggested methodology and applied the corresponding ratio to the total assessed value of Boston Edison's property. The Board did not adopt the assessors' original approach of using the net book cost of the pollution property to ascertain any abatement because such an approach was not only inconsistent with the Board's finding of value for the Mystic property, *infra*, but also inconsistent with the assessors' own contention that the net book cost of the Mystic property did not represent its fair cash value. The assessors appeared to concur with the

Board's approach for valuing the pollution control property in their reply brief. The Board's computations of the abatements granted to Boston Edison, for the pollution-control-equipment exemption under G.L. c. 59, § 5, cl. 44, are set forth below.

Docket Number	Fiscal Year	Total Assessed Value of Mystic	Pollution Control Percentage	Assessed Value of Exempt Property	Tax Rate (per $1000)	Abatement
152500- 152503	1987	$410,648,034	18.5%	$75,969,886.29	$25.83	$1,962,302.16
166408 166409	1988	$491,326,800	19.7%	$96,791,379.60	$23.17	$2,242,656.27
167167 167168	1989	$491,526,800	19.0%	$93,390,092.00	$23.82	$2,224,551.99
174543 174544	1990	$491,526,800	23.2%	$114,034,217.60	$24.74	2,821,206.54

Mystic Station

(1)

The parties agreed and the Board found[4] that Boston Edison's Mystic Station is a special-purpose utility property whose highest and best use is the present one as an electric-power generating station. The Board viewed the property twice and, in addition, witnesses and exhibits, including a detailed stipulation, described the property in great detail. On this basis, the Board made the following findings.

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[4] While some discrepancies between the parties' evidence may exist, the description which follows represents the clear weight of the evidence as well as reasonable inferences which can be drawn therefrom.

The Mystic parcel consists of 66.552 acres of land on Alford Street of which 49.523 acres are above the pier and bulkhead line, and 17.028 acres are located seaward of the pier and bulkhead. The parcel is improved with all of the buildings, property, facilities, and equipment necessary to operate a power-generating plant.

Mystic Station is currently composed of four "units," called Units 4, 5, 6, and 7. They were placed in service in 1957, 1959, 1961, and 1975, respectively. Units 1, 2, and 3, which were coal-fueled steam-driven generating units, were deactivated in 1975. Each unit contains separate boilers and turbine generators as well as much of the accessory equipment needed for operation. While some of the facilities, such as a control room, are shared among more than one unit, each unit is, basically, independent from the other and separately operable. Despite being deactivated and fully depreciated, Units 1, 2, and 3 still retain some value because of the generally good condition, previous development, and continued use of the initial site. The generating equipment has been removed.

At the time of the hearing, approximately $60 million was either spent or allocated to be spent on renovations, termed "life extensions," to Units 4, 5, and 6. Although originally designed to burn coal, these units operate on one-percent residual crude oil. They have a combined net continuous capability of 405 megawatts ("MW"). Despite some annual variations, their outputs and capabilities have remained relatively constant over the years.

Unit 7 is not only the newest unit, but also the largest. It is designed to burn either natural gas or #6 residual oil, when gas is unavailable. Unit 7 normally burns gas from April to December, and #6 residual oil from December to April. It has a net continuous capability of 565 MW. Unlike Units 4, 5, and 6, which are cycled through their minimum and maximum load ranges and at times, when they are not needed, shut down, Unit 7 is perpetually operating at some load. This constant operation minimizes wear caused by thermal changes associated with startup and shutdown.

The Mystic plant's net continuous capability is 970 MW. Its "name plate" capacity, which is what the original equipment manufacturer rated the turbines for under design operating pressure, is 1085 MW. Mystic's useful life as a generating plant appears to extend until about the year 2015, and probably longer with appropriate maintenance and renovations.

The fuel oil for the generating station is stored in several oil storage tanks on site with a combined capacity of approximately 500,000 barrels. The oil comes into the generating station through underground pipelines from an Exxon facility located east of the station. Because of its location on the Mystic River, oil may be delivered directly to the site by ocean-going oil tankers. The natural gas for

Unit 7 is also supplied to the site through a direct connection to the Boston Gas Company's facilities located near Mystic.

The site also contains 110 kilovolt ("KV") and 345 KV electrical substation and transmission facilities which are used to step up the voltage from the generation level and transmit it from the site to other Boston Edison load centers. The electrical facilities also interconnect with the regional electric transmission grid of the New England Power Pool ("NEPOOL"), which is described in greater detail, *infra.*

There are many other support facilities and buildings on the site including a water-pumping station, an administration building, a warehouse, a parking lot (most of which is located in Boston), and water-treatment facilities. Waste-water holding ponds were demolished in 1991. Other smaller buildings and facilities associated with the various operations conducted on the site are also present.

(2)

There was no dispute and the Board found that NEPOOL is a bulk power pool composed of virtually all of the electric utilities in New England. It represents over ninety-nine percent of the electrical generation capacity of New England. Mystic is part of the NEPOOL Agreement and system. The most significant non-member is Maine Public Service.

NEPOOL's goals are to ensure reliability, maximize economy, and provide for equitable sharing of benefits and costs.

In essence, NEPOOL centralizes the authority to dispatch any number of its members' power units to generate electricity as needed. Ordinarily, the most economically efficient plants are run first to provide the most cost-effective electricity to the consumer. NEPOOL's operating arm, the New England Power Exchange ("NEPEX") controls the dispatch of electricity along a transmission network or grid which includes Mystic's 345 KV transmission lines. The network covers all of New England and connects virtually every utility in New England with every other utility, effectively allowing generating capacity to be transferred anywhere within New England. Moreover, the NEPOOL grid connects with other regional transmission facilities permitting power to be purchased from or supplied to markets outside of New England, such as New York, New Jersey, and even Canada.

A member in NEPOOL is entitled to draw electricity from the pool when its own units cannot generate it, are not scheduled to be operated, or are insufficient to meet the member's current needs. This draw may result, however, in a deficiency charge if the member is not meeting its capability responsibility. The charge is intended to reimburse some other members for their costs in meeting the demand.

The NEPOOL Agreement and the transmission system enable utilities to purchase power plants and generating capacity, in whole or in part, outside their service area, to meet their and their consumers' demands.

(3)

While the parties agreed on many of the Board's factual determinations, they vigorously contested Mystic's fair cash values on the relevant assessment dates and which valuation method or combination of methods should be used to derive these values. Boston Edison claimed that the net-book-cost approach (although it did offer other techniques) is the most meaningful valuation method, while the assessors principally relied upon a depreciated-replacement-cost approach. The primary reasons for the disagreement over the valuation technique were the parties' differing interpretations of the regulatory climate which existed during the relevant time period and their differing assessments concerning the availability of potential buyers who could and would pay more than Mystic's net book cost to purchase Mystic.

The preeminent question then becomes: "whether a reasonable buyer, not compelled to buy, would pay substantially more than net book cost to a reasonable seller, not compelled to sell, in the regulatory setting which existed at the time?" The controversy arises because the parties reach opposite answers.

Edward G. O'Brien, Boston Edison's station manager, augmented the stipulated description and other depictions of Mystic, with detailed testimony describing the units, their age and performance history, and the many millions of dollars in additional expenditures either recently spent or committed to be spent by Boston Edison to maintain the units. He testified to the presence of the pollution abatement equipment at the Mystic plant throughout the time period in issue, and explained, along with other witnesses, how the NEPOOL system operates.

John P. Kelly, an appraisal engineer and senior vice president of Stone & Webster Consultants, Inc., testified as a valuation expert for Boston Edison. In evaluating the applicability of the various methods of valuation to the Mystic Station, Mr. Kelly rejected the comparable sales approach for valuing the property because "no properties comparable to Mystic have been sold and therefore [there is] no data on which to form a comparable sales opinion."

He also rejected the capitalization-of-income approach which necessitates an allocation of "an appropriate portion of the net earnings of [Boston Edison] to the property being appraised and [the capitalization of] this amount by the appropriate rate." Mr. Kelly considered this method impractical because any "allocation procedures necessary to determine what portion of the company's total earnings [may] apply to Mystic would be imprecise and arbitrary."

However, Mr. Kelly did embrace the theory that the property's net book cost represented its maximum earnings value in the hands of any purchaser, and therefore, its fair cash value. Mr. Kelly testified that the net book cost of Mystic establishes its rate base. The rate base is the sum upon which an investor owned utility ("IOU") is entitled to earn a return under existing regulatory policies. Because of this rate-base limitation and its concomitant limit on potential earnings, which he believed was the "most important measure of value to the owner and to a prospective purchaser because it permits a comparison to be made with alternative investment opportunities," Mr. Kelly concluded that the property's fair cash value is equal to its net book cost. Mr. Kelly's figures for the property's net book costs (without consideration of any tax-exempt property) on each of the relevant assessment dates are as follows:

Tax Date	Net Book Cost or Fair Cash Value
January 1, 1983	$220,000,000
January 1, 1984	$220,000,000
January 1, 1985	$235,000,000
January 1, 1986	$235,000,000
January 1, 1987	$235,000,000
January 1, 1988	$235,000,000
January 1, 1989	$260,000,000

Mr. Kelly also offered an opinion of value based on a cost approach to valuation. His methodology first determined the reproduction cost new of the property at Mystic. He then trended the original costs of construction from the year of installation to price levels current at each assessment date, using a generally accepted source, the *Handy-Whitman Index of Public Utility Construction Costs* ("*Handy-Whitman Index*"). Finally, he depreciated this figure to reflect wear and tear (physical depreciation), functional obsolescence, and external economic factors (economic obsolescence). His calculations are summarized below:

Tax Date	Original Cost	Trended Reproduction Cost New	Physical & Functional Depreciation	Economic Obsolescence	Reproduction Cost New Less Depreciation
01/01/83	$315,310,800	$707,896,382	($395,190,382)	($93,621,350)	$219,084,650
01/01/84	$329,920,724	$743,506,568	($423,689,568)	($106,677,142)	$213,139,858
01/01/85	$355,512,899	$796,077,387	($476,326,387)	($97,676,916)	$222,074,084
01/01/86	$369,731,201	$797,526,253	($471,055,253)	($90,604,950)	$235,866,050
01/01/87	$373,576,077	$766,811,447	($387,874,447)	($166,078,281)	$212,858,719
01/01/88	$384,009,875	$812,484,094	($433,734,094)	($158,076,240)	$220,673,760
01/01/89	$421,436,545	$891,190,608	($483,178,608)	($147,898,252)	$260,113,748

Mr. Kelly's figures for physical and functional depreciation are based on a comparison of the subject with an alternative facility capable of generating equivalent energy using a less costly or more efficient design. During the tax years in issue, Mr. Kelly concluded that only the transmission and distribution property at Mystic would have been reproduced, while the generating units would have been replaced with natural gas-fired combined cycle units.[5] He believed that the combined cycle unit would have been chosen because it would be more efficient and cheaper to construct than reproducing the Mystic generating units. By using a replacement plant in his depreciated cost analysis, Mr. Kelly testified that he accounted for both the relative inefficiency and the physical degradation of the existing facility. Mr. Kelly found that the cost of an alternative gas-fired plant per kilowatt hour on each relevant tax date was:

Tax Date	Cost of Alternative Facility
January 1, 1983	$568/Kilowatt
January 1, 1984	$590/Kilowatt
January 1, 1985	$622/Kilowatt
January 1, 1986	$626/Kilowatt
January 1, 1987	$639/Kilowatt
January 1, 1988	$673/Kilowatt
January 1, 1989	$707/Kilowatt

Mr. Kelly based his alternative-plant costs on the bid construction costs of Edison's Edgar plant in Weymouth. However, Edison's published construction figure for the Edgar plant is $1069/kilowatt ("KW"), significantly higher than the $707/KW espoused by Mr. Kelly. In attempting to reconcile this difference, Mr. Kelly concluded that Edison's Edgar plant figure included gas transmission costs and working capital costs. However, even after removing these costs from Edgar, his resulting figure is $730/KW. Mr. Kelly offered no reasonable explanation in support of removing these legitimate costs from consideration.

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[5] Combined cycle power plants are aptly named because they link two thermo-dynamic cycles to create electric power. The first cycle uses gas turbine generators to generate electricity, while the second cycle uses the exhaust from the gas turbines to create steam which then drives a steam turbine generator to generate more electricity.

Mr. Kelly's methodology compared the cost to operate the existing Mystic Station with the cost to purchase and operate a hypothetical replacement combined cycle plant. The difference between those numbers is the amount by which operating Mystic is cheaper than paying principal, interest, and operating costs of the replacement plant. This difference represents a sum of money which would be available to service the debt if one bought Mystic. When this sum is capitalized, the resulting figure is the price at which one is theoretically indifferent between buying Mystic and building a new combined cycle plant.

Mr. Kelly's use of a comparison between Mystic and an alternative facility to determine the physical and functional obsolescence of Mystic essentially renders the result a replacement cost figure although he has referred to the result as "reproduction" cost on line 18 of his Exhibits 4 and 7 in his report, Exhibit 10.

Mr. Kelly further testified that his figures for economic obsolescence account for the economic realities of the marketplace by reflecting the limited return any buyer of the existing Mystic facility could reasonably expect to earn because of contemporaneous government regulations. He posited that state and/or federal regulatory agencies would not allow a purchaser of an existing facility, such as a non-traditional independent power producer ("IPP"), to recover any premium above embedded or original cost. He also concluded that a non-regulated municipally-owned utility would reach the same value for Mystic Station as an IOU would.

Moreover, Mr. Kelly opined that, during the tax years at issue, there were, essentially, no changes in the regulatory environment which would affect existing facilities the size of Mystic Station. He noted that the value of Boston Edison's facility in Everett was additionally constrained by the NEPOOL agreement which, he contended, granted members, in effect, rights of first refusal at net book cost on sales of assets by one another.

Mr. Kelly calculated economic obsolescence by comparing the average overall rate of return required for the electricity industry as a whole to what the actual rate of return would have been on the reproduction cost new less physical and functional depreciation, assuming a carry-over rate base. For the reasons set forth more fully, *infra*, the Board disagreed with Mr. Kelly's inclusion of economic depreciation in his cost analysis.

Dr. Charles Cicchetti, a former Commissioner of the Wisconsin Public Service Commission and advisor to the Federal Energy Regulatory Commission ("FERC") also testified for Boston Edison. His expertise was in electric utility pricing, policy, and regulation. He was not an engineer, utility-cost estimator, appraiser, or contractor.

Dr. Cicchetti reinforced and expanded upon Mr. Kelly's testimony. He discussed the regulatory climate, the prevalent management techniques, the prospective purchasers, the NEPOOL system of distribution, and the electrical capacity in New England during the tax years at issue. In consideration of these factors, he concluded that while a market for *new* generating capacity had been created, any pre-existing generating capacity still was governed by the carry-over rate base or reliance upon net book cost for earnings.

Dr. Cicchetti based his valuation analyses for two years at issue on the discounted-cash-flow method and for the remaining years on the depreciated-replacement-cost approach. In preparing his analyses, he relied upon the Electric Power Research Institute's *Technical Advisory Report* ("*TAG*") for his figures. The *TAG* report, however, does not account for indirect costs. In addition, a warning in the report itself explicitly discourages users from utilizing *TAG* figures for site specific valuations.

Under Dr. Cicchetti's analyses, Mystic's value was actually below its net book cost in many of the tax years at issue because of the market opportunities for purchasing new generation. Notwithstanding his analyses, he testified that Mystic's value to Boston Edison was still its net book cost.

He also admitted that Boston Edison would *not* sell Mystic at its net book cost because of the higher replacement costs. His fair-cash-value determinations for each of the tax years at issue, including pollution control equipment, but excluding the transmission and distribution plant, are as follows:

Fiscal Year	Fair Cash Value
1984	$ 72,000,000
1985	$197,000,000
1986	$216,000,000
1987	$210,000,000
1988	$226,000,000
1989	$ 87,000,000
1990	$137,000,000

When questioned about his understanding of fair market value in Massachusetts, Dr. Cicchetti stated that "my definition of fair market value" is what a willing buyer would pay and what a willing seller would sell the property for *if compelled to sell.*

(5)

Five witnesses testified for the assessors regarding Mystic Station. Robert G. Taylor, a professional engineer and partner in the Boston Consulting Office of R. W. Beck and Associates, along with his associate, Donald L. Chambless, who the Board qualified as an expert utility-cost estimator, prepared a report in which they considered three approaches to valuing Mystic Station: depreciated reproduction cost, capitalization of income, and depreciated replacement value. Ultimately, they relied on the depreciated replacement cost as the most appropriate measure of value, using the other approaches as checks.

Their determination of the replacement cost of an equivalent combined cycle facility was attained by: 1) estimating the cost of the necessary materials and labor to construct such a plant at the Mystic site on January 1, 1990; 2) including a standard pricing and construction allowance; 3) adding in a percentage for contractor profit; 4) determining indirect costs; and 5) trending certain figures, as necessary, for geographic and time differences. This process produced a replacement cost of $1,228 per kilowatt.[6]

More specifically, they first developed the direct construction cost of a new replacement plant, over a two-year period, by figuring the cost, on a national average, of each individual component necessary to construct a plant of the same capacity as Mystic. For this purpose, they used Mystic's "name plate" capacity. The costs of smaller

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[5] When 1085 MW is used for Mystic's generating capacity (instead of 1080 MW) and 0.156 is used to adjust the construction costs for the Boston region (instead of 0.174), their replacement-cost figure is $948 per kilowatt, without consideration of the value or added value attributable to the site (along with the allowance for funds used during construction on that value) which would cause this figure to increase considerably.

components were derived from manuals commonly used in the construction industry, such as the *Building Construction Cost Data 1990 ("Means Manual")* and *Process Plant Construction Estimating Standards ("Richardson Manual")*, which provide national average prices. The costs of larger components were gleaned from actual bids or contract prices. The costs of precision components, which require precise engineering drawings, were estimated on the basis of historical percentages as well as Mr. Chambless' experience and judgment.

Labor costs were determined as either a percentage of the material costs or, when available, were obtained from the *Means* or *Richardson Manuals* where the related component cost was priced. The fifteen-percent pricing and construction allowance which Messrs. Taylor and Chambless employed was taken from the *Means Manual*. The ten-percent contractor profit was based on Mr. Chambless' experience reviewing bids and contracts for the construction of power plants.

Their 28.5% estimate of indirect costs, which include expenditures for items such as engineering, security, quality control, taxes, owner's project administration, construction management, financing, legal services, permitting charges, and start-up expenses, was based on Mr. Chambless' experience reviewing, on behalf of lenders, independent estimates which ranged from twenty-five to thirty-five percent. Messrs. Taylor and Chambless further relied upon permitting information provided by Marc Wolman, an environmental engineer who was also associated with Messrs. Taylor and Chambless at R. W. Beck and Associates. Mr. Wolman not only provided them with the necessary permitting information for their analysis, but testified to the extensive time frame required for prospective power plants to apply, have processed, and obtain proper permitting.

Messrs. Taylor and Chambless' figures were adjusted for regional differences between the national average and the Boston area using the *Means Manual* and for time using the *Handy-Whitman Index.*

They also considered and quantified several other characteristics of the Mystic facility which they believed added value to it as compared to a new location. According to Mr. Taylor and Mr. Chambless, Mystic's location is considered excellent because:

> (1) It has historically been used as a site for a steam generating plant using cooling water from the adjoining river;
>
> (2) It has deep water river frontage that allows ocean-going ships to transport fuel to the site;
>
> (3) It is within 0.5 miles of two wholesale gas suppliers that have the ability to provide large quantities of gas for fuel;
>
> (4) Generating facilities existing on the site have been permitted to expel effluent into the local atmosphere;

(5) It has high voltage transmission lines which have the ability to interconnect the site with the high voltage transmission network and all the region's load centers; and

(6) It is located within the major electric load area.

Accordingly, in their report, Messrs. Taylor and Chambless added between approximately thirty-five million and fifty million dollars to the value of Mystic, depending upon the particular fiscal year, to account for these characteristics. They also added another approximately twenty-four to thirty-five million dollars to the value of Mystic to account for savings in interest costs the Mystic facility would have offered over the construction of a replacement plant.

Messrs. Taylor and Chambless accounted for physical deterioration and functional obsolescence by factoring depreciation into their analysis. For physical deterioration, they examined the costs necessary to cure the existing plant's wear and tear; the costs associated with renewing or replacing components, using historic Boston Edison data and current studies to ascertain actual expenditures and projections; and the likely increased expenditures pending replacement or renewal. For functional obsolescence, they determined from industry sources that Mystic is fifteen percent less efficient than a combined cycle plant. This lower efficiency is measured by the cost of fuel. After adjusting for Boston Edison's operational idiosyncrasies and ability to use cheaper oil than a combined cycle plant, Messrs. Taylor and Chambless established what they considered to be the functional obsolescence of the property, resulting from its inferior efficiency, by capitalizing fifteen percent of Mystic's annual fuel costs.

Unlike Mr. Kelly, they did not deduct for economic obsolescence in their analysis because, in their view, there is no obsolescence associated with the product itself, electrical power or electricity. They considered a kilowatt of electricity generated for the power grid and conforming to NEPOOL specifications a fungible product regardless of whether it comes from the oldest or the newest plant in the system.

Moreover, Mr. Taylor reported that Mystic's net book value is not relevant in the determination of its fair cash value. He noted in the report that there are a number of unregulated entities in the marketplace that could purchase the Mystic plant and would not be constrained in the price they would pay except by competitive market conditions. There were also a number of municipal utilities in the marketplace that could jointly arrange to purchase all or part of Mystic at or near the depreciated replacement cost and then pass the full cost of the purchase to their customer base.

Mr. Taylor reported that rates charged by municipal utilities are not established by the Massachusetts

Department of Public Utilities ("DPU"). He testified that while the Massachusetts DPU "does review from time to time the amount of revenues that the electricity departments in the community are obtaining from their customers . . . [to] identify an eight percent level of return on their investment," the manner in which their costs are identified would allow them to recover the full amount of a purchase through their rates.

Mr. Taylor examined the possibility of a group of municipal systems purchasing Mystic through an entity such as Massachusetts Municipal Wholesale Electric Company ("MMWEC"). Many municipal utilities have arranged to purchase power collectively through MMWEC. He observed that, generally, municipal systems are older, smaller, and more expensive to operate than larger plants like Mystic. He also observed that municipal systems were projecting a significant need for additional capacity during the years at issue. In Mr. Taylor's opinion MMWEC could have financed the purchase of any portion of Mystic. Consequently, MMWEC was a potential purchaser of more efficient power and additional capacity for projected load growth.

In addition to unregulated purchasers, Mr. Taylor claimed that other regulated utilities in Massachusetts could have purchased Mystic for more than its net book cost. He reported that significant developments in the Massachusetts DPU's regulatory policy, as early as 1986, but foreshadowed several years earlier, would allow purchasers of electric utility properties to set rates based on, not the original net book cost of the seller (carry-over rate base), but on the actual purchase price, provided the purchaser could demonstrate that the purchase was the least costly alternative for meeting its power generation requirements. Mr. Taylor relied on a set of Massachusetts DPU regulations generally referred to as 86-36.

Similarly, Mr. Taylor maintained that utilities which purchase power from a co-generation facility which qualifies under the Public Utility Regulatory Policies Act of 1978 ("PURPA") are required to pay a price based on the utility's ability to avoid the cost of future construction and operating costs as a result of the purchase. Consequently, if Mystic or a portion of it was converted to or qualified as a co-generating facility, the rate a purchaser could charge its customers would not be limited by the carry-over rate base. Mr. Taylor also maintained that since the mid-1980s, FERC, an acronym for the Federal Energy Regulatory Commission, the federal agency which regulates large power producers, had been moving toward market-based pricing and encouraging utilities to purchase more of their power needs from IPPs, rather than construct their own new facilities. Since none of these possible purchasers of Mystic was limited in their return on its investment by the carry-over rate base, he believed that the net book value of the plant has little, if any, relationship to fair cash value.

In summary, Mr. Taylor, with assistance from Mr. Chambless, determined the fair cash value of the Mystic property, excluding land, as follows:

Fiscal Year	Cost of Replacement Plant	Depreciation	Replacement Value Less Depreciation
1984	$1,006,000,000	$ 12,000,000	$ 994,000,000
1985	$ 991,800,000	$199,300,000	$ 792,500,000
1986	$ 993,400,000	$133,400,000	$ 860,000,000
1987	$ 979,800,000	$(93,200,000)	$1,073,000,000
1988	$1,021,200,000	$141,900,000	$ 879,400,000[7]
1989	$1,127,500,000	$(90,900,000)	$1,218,400,000
1990	$1,326,400,000	$131,100,000	$1,195,300,000

Finally, excluding the deduction for economic depreciation, Mr. Taylor was willing to accept Mr. Kelly's depreciated-replacement-cost methodology as an adequate approach to calculating depreciated replacement cost, so long as the following changes in Mr. Kelly's methodology were made:

1) changes in the cost per kilowatt of the replacement plant;

2) changes in the replacement plant's cost of fuel to reflect the price of distillate fuel;

3) changes in the replacement plant's operation and maintenance expenses which are based on Edison's Edgar Plant;

4) change the useful life of Units 4, 5 and 6; and

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[7] For fiscal year 1988, Mr. Taylor rounded the replacement-value-less-depreciation calculation of $879,355,998 to $879,400,000.

5) add expenses for extending the life of Units 4, 5 and 6.

Mr. Taylor calculated the depreciated replacement cost of Mystic based on replacement plant costs of $1228, $1069, $1000, $900, $800, and $707 per kilowatt.

Also testifying, under subpoena, for the assessors was Jan Christopher Terajewicz. Mr. Terajewicz is the vice president in charge of operations for J. Makowski Associates, a company which specializes in the development of power plants and natural gas transportation. As vice president, he supervises all of the company's construction projects, including one in Rhode Island called the Ocean State facility. Mr. Terajewicz testified to the actual costs incurred in 1991 to construct the two 250 MW combined cycle generators which comprise the Ocean State facility. According to his testimony, those costs which are susceptible of comparison closely approximated the costs projected by Messrs. Taylor and Chambless in their replacement cost figures for Mystic. With respect to the bottom line, Ocean State's per-kilowatt cost in 1991 dollars without consideration of the carrying-costs interest is $891; with the interest, it is $936.40.

Two additional experts testified for the assessors. Mr. Robert Patterson is the principal of W. R. Patterson and Associates which specializes in electric utility and co-generation development. For the past twenty-five years, he has done extensive planning and reviewing of power plant projects and related cost projections for utilities, industries, IPPs, governmental entities, and financial institutions. His experience includes co-generation and IPP project developments.

Mr. Patterson testified and reported on the perspective an IPP would take if they were looking to purchase all or part of Mystic. He also analyzed Dr. Cicchetti's evaluations of Mystic's fair cash value. Mr. Patterson identified several errors and misconceptions in Dr. Cicchetti's methodology. For instance, Dr. Cicchetti did not consider the perspective of an IPP in his analyses thereby greatly deflating his values. In addition, Mr. Patterson testified that Dr. Cicchetti failed to properly trend his values or adjust for several other important factors. When Mr. Patterson substituted his assumptions and figures into Dr. Cicchetti's analyses, he valued Mystic at many hundreds of millions of dollars greater than Dr. Cicchetti, depending upon the fiscal year. Mr. Patterson observed that this exercise underscored the erratic results which often occur when attempting to value utility property using the methodology relied upon by Dr. Cicchetti.

Dr. Michael Yokell is an economist and the President of RCG/Hagler Bailly which is located in Washington, D.C. RCG/Hagler Bailly performs consulting services in the energy and environmental fields with a particular emphasis on the electric utility and independent power industries. Part of

Dr. Yokell's duties include directing the utility services group within the company. For the past twelve years, he has advised and assisted companies in virtually all aspects of utility regulation including financial analysis, avoided cost, independent power, building and expansion, rate setting, and contract negotiation.

He testified to recent regulatory changes in the electric industry in the United States, New England, and Massachusetts. According to Dr. Yokell, these changes have trended toward the deregulation of power plants and the rates charged by them, and have encouraged the development of the independent power producers and qualifying facilities, collectively referred to as the non-utility generation ("NUG") industry.

Dr. Yokell explained that beginning in 1978, PURPA enabled qualified facilities ("QFs") and IPPs to sell their output for avoided cost. When IPPs sell their output, FERC examines the sale. FERC's primary concern is that the seller does not unduly influence the sale price through control over power transmissions, creating a quasi-monopoly, or as an affiliated entity, engaging in self-dealing. If neither of these circumstances exist, FERC will allow the free market to determine the price. As a practical matter, since IPPs do not own transmission facilities, Dr. Yokell testified that "FERC will allow the price to be whatever is agreed to."

Dr. Yokell also observed that recent regulatory developments in Massachusetts caused utilities in that state to engage in a least cost and avoided cost analysis when purchasing power, building new facilities, or managing their loads. He did not limit his observations to the purchase of only *new* generating power. Dr. Yokell concluded that these developments permit sales of facilities at substantially more than their net book costs in Massachusetts. Dr. Yokell also criticized Dr. Cicchetti's discounted-cash-flow analysis for undervaluing or ignoring certain factors and for being susceptible to significant value manipulation.

(6)

On the basis of all of the evidence and reasonable inferences drawn therefrom, as well as its own reading of pertinent regulatory decisions and case holdings, which reading is set out more fully in its Opinion below, the Board found the following with respect to valuing the Mystic property.

Regulatory Environment

1) During the years at issue, a utility which was regulated by the Massachusetts DPU, such as Boston Edison, could petition the DPU to include in its rate base the amount which it paid or intended to pay for utility property.

2) During the years at issue, the Massachusetts DPU determined the applicable rate base on a case-by-case basis.

3) As early as 1982, the Massachusetts DPU decisions foreshadowed a move away from traditional "carry-over-rate-base" rate regulation in favor of market-based rates.

4) In the mid-1980s, the Massachusetts DPU began to expressly revise its system for setting rates for the recovery of moneys expended to acquire generating capacity. These revisions appeared to eschew traditional cost-of-service ratemaking and adopt a system of pre-approved recovery for moneys spent acquiring capacity provided the acquired capacity was the least costly alternative on an avoided cost basis.

5) At all relevant times, a regulated utility potential purchaser would consider it likely that the Massachusetts DPU would approve its request to include in its rate base an amount which it paid over net book cost to acquire all or a portion of an electric generating station, like Mystic, if the purchase avoided a higher cost of alternative capacity and represented a least costly alternative.

6) Even if the Massachusetts DPU had a carry-over rate base policy in effect during the relevant years, the DPU's and Supreme Judicial Court's contemporaneous decisions would indicate to a regulated utility potential purchaser that it was likely that if the utility paid more than net book cost, it would not have been required to carry over the net book of the purchased property into its rate base.

7) On the federal level, during the years at issue, FERC, under whose auspices Boston Edison was regulated, determined the applicable rate base on a case-by-case basis.

8) During the years at issue, as well as prior years, FERC approved sales of utilities at more than net book cost, and permitted sales of electricity at market rates.

9) During the years at issue, it appeared more probable than not that if a regulated utility demonstrated that public benefits would accrue to the extent of the price paid for the property, FERC would not apply a carry-over rate base policy.

10) At all relevant times, public benefits which would warrant an exception to a carry-over rate base policy included, among other things, a more efficient and economical use of facilities, a tendency to reduce future revenue requirements, beneficial esthetic and environmental effects, improved safety, and the ability to avoid the higher cost of constructing or purchasing a newly constructed facility or maintaining duplicate facilities by the purchase of an existing facility.

11) During the years at issue, a regulated utility potential purchaser would consider it unlikely that FERC would apply a carry-over rate base when the purchase of an existing and operating electric power plant would enable the utility to acquire capacity at the least possible cost and at a cost less than the construction of a new comparable facility.

12) Decisions from the regulatory bodies for electric utilities in other states, where regulated utility potential purchasers were located, indicated that, during the years at issue, those states had similar public-benefits exceptions to any carry-over rate base rule which may have existed in those states. Accordingly, it appeared more probable than not that if a regulated utility demonstrated that public benefits would accrue to the extent of the price paid for the utility property, those states' regulatory bodies would not apply a carry-over rate base policy.

13) During the years at issue, regulated electric utilities were constructing or planning to construct significant additional capacity.

Transmission of Electricity, Potential Purchasers and Advantages of Mystic

14) During the years at issue, the NEPOOL transmission facilities enabled its members to obtain power from sources located at various geographic locations throughout New England and beyond. These same facilities enabled its members to transmit their power throughout New England and beyond.

15) During the years at issue, a purchaser of all or a part of Mystic Station could use the electricity generated there throughout New England and beyond.

16) During the years at issue, the Mystic Station had a value in excess of its net book cost to both regulated and unregulated utility potential buyers.

17) At all relevant times, MMWEC, a corporation with authority to buy generating capacity anywhere in New England for member municipal systems (see G.L. c. 164A, § 3), had, as more fully explained in the Opinion which follows, certain tax and financing advantages and thus could pay substantially more for generating capacity than a public utility without necessarily increasing its rates.

18) At all relevant times, MMWEC was a member of the New England Power Pool and therefore had access to the NEPOOL transmission grid.

19) At all relevant times, municipal electric light departments which entered into output and capacity agreements with MMWEC were obligated to collect revenues through rates sufficient to meet their obligation under any output and capacity contract between them and MMWEC.

20) During the years at issue, the fees and charges assessed by MMWEC to its members were not significantly regulated by the Commonwealth or other governmental instrumentalities.

21) During the years at issue, MMWEC and municipal electric light companies could purchase electrical generating capacity throughout New England and beyond.

22) At all relevant times, as long as MMWEC showed a reasonable utility purpose for a proposed financing and that a reasonable decision making process underlied its decision, the Massachusetts DPU would not scrutinize the economics or prudence of the underlying purpose of the finance. Moreover, the Massachusetts DPU also accorded MMWEC substantial deference in matters of management judgment.

23) During the years at issue, the Massachusetts DPU had limited authority to regulate the rates established by

municipal electric light departments to their customers. Under G.L. c. 164, § 58, the rates were limited to not more than eight percent per year on the *cost of the plant*, that is, the total amount expended to purchase the power plant, after payment of all operating expenses, interest on outstanding debt requirements of the serial debt or sinking fund and depreciation of the plant.

24) During the years at issue, the Massachusetts DPU had limited authority to enforce a carry-over rate base policy on MMWEC and municipal electric light departments.

25) During the years at issue, MMWEC's demand for capacity approached four hundred MW.

26) During the years at issue, it is more probable than not that MMWEC had the ability to raise sufficient funds to purchase a significant portion of Mystic Station at amounts substantially above Boston Edison's net book cost.

27) In addition to purchasing and selling power for its members, at all relevant times, MMWEC could sell power to other utilities or public and private entities.

28) Because Mystic Station was connected to the NEPOOL transmission grid, at all relevant times, the electricity generated there could be transmitted throughout New England and beyond.

29) In addition to MMWEC, there were several unregulated entities in New England, during the years at issue, that could have purchased part of Mystic Station had it been for sale.

30) With the passage of PURPA in 1978, IOUs were required to purchase the output of a facility qualifying under that statute at a price equal to the avoided cost of such power to the utility.

31) During the years at issue, unregulated IPPs were entering the power generating marketplace. IPPs are wholesale electric companies without retail customers or franchise areas that produce power for sale to investor-owned electric utility companies as well as other electric

resellers. They were free to purchase a facility at whatever price made economic sense.

32) Because of the existence of unregulated potential purchasers of Mystic Station during the years at issue, including MMWEC, municipals and IPPs, as well as actual and perceived regulatory changes and exceptions to the carry-over rate base principle making investment by others more attractive, the use of the net-book-cost approach to valuation in these appeals should be de-emphasized.

33) At all relevant times, the characteristics of an electrical distribution system which might limit its fair market value or the universe of potential purchasers were not present with respect to electrical generating stations, such as Mystic.

34) At all relevant times, the value of Mystic Station was increased by its proximity to fuel, major electric load areas, and cooling water, as well as by its historical use as a power plant site.

35) At all relevant times, the value of Mystic Station was increased because of its existing permits and licenses for its special use.

36) At all relevant times, the value of Mystic Station was increased by its ability to burn high sulfur fuel where a modern combined cycle plant would not enjoy this cost saving benefit.

37) Under the circumstances, it was unlikely that Boston Edison would sell Mystic Station, during the years at issue, at its net book cost, but rather, was more likely to sell Mystic Station at or near its depreciated replacement cost.

38) At all relevant times, the purchase of Mystic Station at a price well above net book cost was reasonable and sensible when compared to the cost of new construction, such as the Edgar or Ocean State facilities (or the cost of the least cost alternatives), and when considered in light of Mystic's other advantages over constructing new generating capacity.

39) During the years at issue, the purchase of Mystic Station at its respective assessed values would have avoided the higher cost of alternative capacity and, therefore, would have been a public benefit.

40) If, during the years at issue, Mystic Station were to have been sold, the purchase price would have been above net book cost and closer to the installed cost of a new generating station purchased by utilities in the mid- to late 1980s.

41) A sale at the above price benefits the seller's ratepayers because the amount paid above net book could be applied to lowering the seller's utility rates, retiring debt, or otherwise benefiting the seller's ratepayers.

42) A sale at the above price benefits the buyer's ratepayers because they receive the least cost alternative and the lower rates which reflect that fact.

Valuation

43) During the years at issue, the use of the comparable-sales method for ascertaining the fair market value of Mystic Station was inappropriate because of the lack of sales of comparable property.

44) The capitalization-of-income or discounted-cash-flow methods of appraisal were not reliable methodologies for determining the fair cash value of the Mystic Station during the years at issue. However, a capitalization-of-income approach could be used as a check on the depreciated-replacement-cost approach.

45) The discounted-cash-flow approach to valuing Mystic Station was unreliable during the years at issue because of the large number of variables and the inaccuracy of predictions regarding the anticipated behavior of those variables.

46) The capitalization-of-income or discounted-cash-flow approaches espoused by Boston Edison's experts were flawed because, among other reasons, they used income streams which were based on unrealistic suppositions

regarding potential purchasers' interpretations and predictions of the existing and future regulatory environments. They also ignored decisions made by sophisticated and experienced investors during this time period to spend $936 and $1,069 per kilowatt to construct new base load power plants, and were circular in their reasoning.

47) At all relevant times, Mystic Station was a special-use type of property for which the replacement-cost method of determining its fair cash value was appropriate. However, the current cost of replacing Mystic Station had to be adjusted to reflect accrued physical depreciation and any functional or other obsolescence. This approach was also appropriate for comparing the value of Mystic to the cost of comparable alternative capacity.

48) In applying a cost approach for the years at issue, Mystic Station would have probably been replaced by a combined-cycle power plant, rather than have been reproduced. Both parties agree that when valuing Mystic for any one year using a depreciated-replacement-cost approach, it is appropriate to use the cost of a combined-cycle power plant on a dollar-per-kilowatt basis and then to trend that figure using the *Handy-Whitman Index*.

49) Boston Edison planned to spend $1069 per kilowatt to complete its combined-cycle Edgar Station.

50) Mr. Taylor's $948-per-kilowatt replacement-cost figure, without consideration of the value or added value attributable to the site (along with the allowance for funds used during construction on that value) which would cause this figure to increase considerably, favorably compared with Boston Edison's published figure of $1069 per kilowatt.

51) The combined-cycle Ocean State Power Plant cost its owner $891 per kilowatt without interest and $936 per kilowatt with interest, in 1991 dollars, to construct.

52) During the years at issue, it was appropriate to include the cost of fuel transmission into Edgar when determining the cost which Boston Edison expected to pay to

construct and operate Edgar Station. It was also appropriate to consider working capital costs.

53) Accordingly, one of Boston Edison's expert's $707-per-kilowatt cost estimate for replacing Mystic Station was incorrect and incomplete because it did not include the costs associated with fuel transmission and working capital.

54) A reasonable replacement cost of Mystic Station can be determined by dividing the cost of a combined cycle plant by its kilowatt capacity and then multiplying that dollar-per-kilowatt figure by the capacity of Mystic Station. This replacement cost figure for one year can then be trended for the remaining years at issue by using the *Handy-Whitman Index.*

55) The replacement cost approach used by one of Boston Edison's experts, Mr. Kelly, was appropriate for the Board to use for its replacement cost analysis, after several errors and misconceptions were corrected. The assessors approved of this approach.

56) The fundamental errors or erroneous assumptions in Mr. Kelly's analysis include (a) his reliance on projected costs of the Edgar Station that were below costs reported to the Massachusetts DPU by Boston Edison, and (b) the use of so-called economic depreciation which was really based on the net book cost of the plant, was circular in reasoning, and adopted the erroneous premise that all potential purchasers of Mystic would assume that a carry-over rate base rule would invariably apply to a sale of all or a substantial portion of Mystic Station.

57) Additional errors in Mr. Kelly's analysis include the (a) use of the wrong fuel cost for the "alternative facility," (b) use of unexplained non-fuel generating expenses, and (c) use of a retirement date of 1995 for Units 4, 5 and 6 that was unsupported by the evidence, thus affecting the capitalization rates Mr. Kelly used in his depreciation analysis.

58) The useful life of Mystic Station, including Units 4, 5 and 6, extends to approximately the year 2015, and perhaps, like Unit 7, beyond.

59) One of the assessors' experts, Mr. Taylor, properly corrected Mr. Kelly's errors or misconceptions in his cost analysis by (a) changing the cost per kilowatt of the replacement plant to $1069 per kilowatt,[8] (b) changing the cost of fuel to reflect the price of distillate fuel, (c) changing the replacement plant's operation and maintenance expenses to figures based on Edison's Edgar Plant, (d) changing the projected useful life of Units 4, 5 and 6, and (e) adding expenses for extending the life of Units 4, 5 and 6.

60) The appropriate depreciated-replacement-cost methodology and figures, as found in Exhibit XX, Mr. Taylor's revision of Mr. Kelly's methodology, yielded the following results for tax years 1984, 1985, 1986, and 1987:

	1984	1985	1986	1987
REPLACEMENT COST NEW LESS PHYSICAL & FUNCTIONAL DEPRECIATION (RCNLD)	$	$	$	$
Mystic # 4,5,6	285,883,111	227,667,236	188,725,066	206,991,883
Mystic #7	744,360,250	541,165,571	464,026,969	486,102,399
Transmission and Other Plant	30,716,000	34,447,000	35,011,000	30,471,000
Total	1,060,959,361	803,279,807	652,752,036	693,094,282

61) The appropriate depreciated-replacement-cost methodology and figures, as found in Exhibit XX, Mr. Taylor's revision of Mr. Kelly's methodology, yielded the following results for tax years 1988, 1989, and 1990:

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[8] Mr. Taylor computed several different depreciated-replacement-cost valuations, based on Mr. Kelly's methodology, using various costs per kilowatt, including $1228, $1069, $1000, $900, $800, and $707. The Board selected $1069 as the most appropriate figure because it reflected not only Boston Edison's published figure for the Edgar plant, but was amply supported by other evidence in the record such as Mr. Terajewicz' unbiased testimony concerning the costs incurred in constructing the Ocean State facility, Mr. Taylor's equivalent figure, and even Mr. Kelly's own testimony regarding the cost of Edgar once fuel transmission and working capital costs were properly considered.

	1988	1989	1990
REPLACEMENT COST NEW LESS PHYSICAL & FUNCTIONAL DEPRECIATION (RCNLD)	$	$	$
Mystic # 4,5,6	289,821,921	233,857,745	323,218,140
Mystic #7	661,893,699	512,234,737	658,105,721
Transmission and Other Plant	32,577,000	32,990,000	36,932,000
Total	951,715,620	746,092,481	981,323,862

62) In accordance with the parties' stipulations, the fair cash value (FCV) of the unimproved land underlying Mystic Station, independent of its past or current use as the site for a generating plant, for each year at issue, for depreciated-replacement-cost purposes, is as follows:

Tax Year	FCV
1984	$4,303,240
1985 - 1990	$8,628,888

63) In accordance with the parties' stipulations, the net-book cost of Mystic Station, including land, for each of the years at issue is as follows:

Tax Year	Net Book Cost
1984	$218,318,620
1985	$223,253,029
1986	$236,249,026
1987	$242,019,077
1988	$237,657,793
1989	$234,759,319
1990	$257,612,654

64) The limited potential effects of restrictive regulation on the fair market value of the Mystic property, during the years at issue, is best accounted for by valuing that property using a weighted ratio of depreciated-replacement-cost to net-book-cost figures.

65) In consideration of the perceived regulatory climate which existed during the relevant time period, the probable avoided cost, Mystic's intrinsic value, as well as the existence of unregulated potential purchasers and their likely willingness and ability to purchase a substantial

part or all of Mystic (had it been for sale), the fair cash value of Mystic Station is best, and conservatively, determined by using a valuation methodology which employs a two-to-one ratio of depreciated replacement cost to net book cost.

66) Accordingly, the fair cash value of the Mystic property for the years at issue, using a two-to-one, depreciated-replacement-cost to net-book-cost ratio, is as follows:

Tax Year	RCNLD (including land)	Net Book Cost (including land)	Fair Cash Value
1984	1,065,262,601	218,318,620	782,947,941
1985	811,908,695	223,253,029	615,690,140
1986	661,380,924	236,249,026	519,670,291
1987	701,723,170	242,019,077	548,488,472
1988	960,344,508	237,657,793	719,448,936
1989	754,721,369	234,759,319	581,400,686
1990	989,952,750	257,612,654	745,839,385

Summary

In summary, the abatements, if any, and the basis of their computations are as follows:

The Robin and Rover Streets Property

Docket Number	Fiscal Year	Fair Cash Value	Eq. Tax Rate (per $1000)	Tax Due	Tax Assessed	Abatement
113120	1980	$122,500	$42.71	$5,232.00	$17,297.00	$12,065.00
117494	1981	$122,500	$33.90	$4,153.00	$17,101.00	$12,948.00
126060	1982	$122,500	$28.79	$3,527.00	$14,455.00	$10,928.00
131839	1983	$122,500	$21.10	$2,577.00	$14,682.43	$12,105.43
140248	1984	$122,500	$21.60	$2,638.44	$17,297.00	$12,065.00

The Monsanto Property

Fiscal Year	Assessed Value	Fair Cash Value	Over Valuation	Tax Rate	Tax Abatement
1986	$1,949,736	$2,695,000	--	$26.22	$ 0
1987	$1,949,736	$2,965,000	--	$25.83	$ 0
1988	$4,793,600	$3,261,000	$1,532,600	$23.17	$35,510.34
1989	$4,793,600	$3,261,000	$1,532,600	$23.82	$36,506.53
1990	$4,793,600	$3,261,000	$1,532,600	$24.74	$37,916.52

Pollution Abatement Property Located at Mystic Station

Docket Number	Fiscal Year	Total Assessed Value of Mystic	Pollution Control Percentage	Assessed Value of Exempt Property	Tax Rate (per $1000)	Abatement
152500- 152503	1987	$410,648,034	18.5%	$75,969,886.29	$25.83	$1,962,302.16
166408 166409	1988	$491,326,800	19.7%	$96,791,379.60	$23.17	$2,242,656.27
167167 167168	1989	$491,526,800	19.0%	$93,390,092.00	$23.82	$2,224,551.99
174543 174544	1990	$491,526,800	23.2%	$114,034,217.60	$24.74	2,821,206.54

Mystic Station

Docket Numbers	Fiscal Year	Assessed Value	Fair Cash Value	Over Valuation	Tax Rate	Tax Abatement
140245 & 140246	1984[9]	$ 99,605,100	$782,947,941	--	$122.80	$ 0
145330, 145331 & 145332	1985	$407,274,586	$615,690,140	--	$25.40	$ 0
148122 - 148125	1986	$410,644,486	$519,670,291	--	$26.22 $13.56	$ 0
152500 - 152503	1987	$410,648,034	$548,488,472	--	$25.83 $13.37	$ 0
166408 & 166409	1988	$491,326,800	$719,448,936	--	$23.17	$ 0
167167 & 167168	1989	$491,526,800	$581,400,686	--	$23.82	$ 0
174543 & 174544	1990	$491,526,800	$745,839,385	--	$24.74	$ 0

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[9] The parties agreed that the equalized assessed value and tax rate for FY 1984 are $566,810,000 and $21.60, respectively. See footnote 1, *supra*.

OPINION

Introduction

There are, essentially, three contested and overlapping legal issues in these appeals. The first issue concerns the applicability of the tax exemption, under G.L. c. 59, § 5, cl. 44, for the pollution abatement property which was incorporated into the Mystic facility during the relevant years. The second issue concerns the regulatory environment for and potential purchasers of electric utilities during the relevant years. And the final issue concerns the valuation of the properties before the Board during the relevant years.

Pollution Abatement Property

G.L. c. 59, § 5, cl. 44, provides an exemption from taxation for:

> Any structure, building, device, appliance, machinery, equipment or other property, whether consisting of real or tangible personal property, or a combination of both, which is constructed, installed or placed in operation, in whole or in part, for the purpose of eliminating industrial waste or reducing such waste . . . and thereby abating or preventing the pollution of the waters . . . or the atmosphere of the commonwealth.

However, this clause further provides that, "[n]o exemption shall be granted under this clause unless [the appropriate state official[s] certif[y] to the assessors of the city or town involved that [said] property is effective in eliminating or reducing pollution to an acceptable level." G.L. c. 59, § 5, cl. 44.

There was no dispute that pollution control property was in place at Mystic for all the years at issue. There was also no dispute that the water pollution control property and the air pollution control property were certified by the appropriate state officials on August 27, 1985 and November 12, 1985, respectively. The assessors first became aware of Boston Edison's entitlement to the exemption on or about the certification dates, as well.

The parties agree that Boston Edison's pollution control property was, therefore, exempt from taxation from the dates of certification or, from an assessing standpoint, from fiscal year 1987 (the January 1, 1986 assessment date). However, Boston Edison further maintained that, on public-policy and statutory-construction grounds, the pollution control property should be considered exempt as of the date(s) of installation. The Board disagreed.

Exemption statutes are "construed without particular generosity toward taxpayers." ***Henry Perkins Co. v. Board of Assessors of Bridgewater***, 377 Mass. 117, 122 (1979). See ***Mahoney v. Board of Assessors of Watertown***, 362 Mass. 210, 214 (1972). In other words, "[a]n exemption from taxation is a privilege," ***Milton v. Ladd***, 348 Mass. 762, 765 (1965), and exemption statutes are, accordingly, "subject to strict construction." ***Board of Assessors of Wilmington v. Avco Corp.***, 357 Mass. 704, 706 (1970).

Similarly, filing requirements imposed upon a taxpayer as prerequisites for obtaining exemption from taxation are also interpreted stringently. In ***Children's Hospital Medical Center v. Board of Assessors of Boston***, 388 Mass. 832 (1983), the Supreme Judicial Court considered the "timely filing of the list, statement, and certification with the assessors . . . a prerequisite to obtaining an abatement" for a charitable organization's property under G.L. c. 59, § 5, cl. 3(b) and § 29. ***Id.*** at 838.

Clause 44 explicitly provides that no exemption may be granted in the absence of the proper certification to the assessors that the property is effective in eliminating or reducing pollution. The words of a statute are to be interpreted according to their ordinary and commonly understood meaning. See, e.g., ***Industrial Finance Corp. v. State Tax*** Commission, 367 Mass. 360, 364 (1975). Clause 44's certification requirement is clear and unambiguous. Given this explicit certification requirement, and the strict construction given to exemption statutes, the Board ruled that the exemption contained in cl. 44 did not automatically apply to Boston Edison's pollution control property, but only arose after proper "certification" had been provided to the assessors. Since the certification was not provided until shortly before the fiscal year 1987 assessment date, Boston Edison could not receive its benefit until fiscal year 1987.

Moreover, the Board's ruling in this regard comports with the realities of municipal finance. As the assessors pointed out in their brief, the City should not be forced to abate taxes based upon exempt property of which it was unaware at or near the time of assessment. A retroactive abatement, after the taxes had already been assessed, committed, and collected, would, since the enactment of Proposition 2 1/2, be money lost forever to the City. The statute requires the certification so that the property is not taxed and is properly accounted for at the outset; it is not intended to create a retroactive right to an abatement.

For these reasons, the Board ruled that Boston Edison did not have a retroactive right to an abatement for its pollution control property, under G.L. c. 59, § 5, cl. 44. Therefore, for all fiscal years before 1987, the property was not certified to be "effective in eliminating or reducing pollution" and consequently, was not exempt from taxation.

There remains the issue of how to separate a value for the property used exclusively for pollution control from the value for the plant as a whole. The allocation provisions in cl. 44 provide, in pertinent part:

> [I]f, however, only a portion of such structure, building, device, appliance, machinery, equipment or other property is used for the elimination or control of water or air pollution, the exemption shall be prorated as follows: for structures and buildings, the ratio which the area or volume, as applicable, thereof used solely for pollution control bears to the entire area or volume; for devices, appliances, machinery, equipment or other property, the ratio which the operating time devoted solely to pollution control bears to the total operating time.

These provisions are not helpful in determining a value for the exempt pollution control property because they are inapplicable. The property in question is not partially devoted to pollution control. Rather, the pollution control property, here, is exclusively devoted to pollution control.

To value the exempt pollution control property, the Board relied upon neutral principles of proration, as suggested by the parties, and an analogous exemption statute which apportions values of land held for water supply. That statute, G.L. c. 59, § 5G, provides, in pertinent part:

> If such land is part of a larger tract which has been assessed as a whole, its assessed valuation in any year shall be taken to be that proportional part of the value of the whole tract which the value of the land so acquired, exclusive of buildings, bore in such year to the value of the whole tract.

Correspondingly, the Board found the percentage of property devoted to pollution control, as did the parties, by comparing each year's net book cost of the pollution control property to each respective year's total net book cost of Mystic. By applying the resulting ratio to the *assessed values* of Mystic (to which the assessors acquiesced in their reply brief), the Board determined the assessed values of the exempt property for fiscal years 1987 - 1990, and calculated the attendant abatements on this basis.

Regulatory Environment and Potential Purchasers

Relying upon the testimony, exhibits, and its own analysis of relevant cases, regulations, and rulings, the Board determined that throughout the 1960s and 1970s, IOUs dominated the electric power marketplace. Providing power to area customers, these entities owned virtually all of the plants which were used to produce the power to meet customer demands. The IOUs were limited, however, as to the rates which they could charge their customers. Historically, the rates were restricted by, and directly tied to, the "embedded-cost" or cost-of-service methodology. Generally, this approach fixed the rate which an electric utility could charge its customers to its net book cost.

During the relevant years, the Massachusetts DPU regulated those electric utilities located in the Commonwealth and serving Massachusetts retail customers. FERC regulated sales and transmission of electricity across state lines, and those utilities producing electricity for sale at wholesale, for example, to municipalities, between utilities, or by non-utility producers of electricity to utilities. Accordingly, Boston Edison and Mystic were regulated by both the Massachusetts DPU and FERC.

In addition to the dominant IOUs, there also existed municipal electric departments which provided power to citizens of a particular city or town. Municipals were not subject to the same regulations as the IOUs, particularly with respect to the Massachusetts DPU's carry-over rate base limitation. See ***Boston Edison Co. v. Bd. of Assessors of Boston***, 7 Mass. App. Tax Bd. Rep. 93, 119 (Docket Nos. 91671 *et. seq.*, November 7, 1986). Because, these entities were not limited to "embedded cost" for rate determination, they were able to set their rates to recover all costs plus a return of eight percent on the cost of a plant. G.L. c. 64, § 58.

In 1969, a number of municipals banded together to create MMWEC. The primary goal of MMWEC was to "find power for municipal electric systems and assist them in building or buying capacity" thereby eliminating the necessity of purchasing electricity only from the IOUs. ***Id.*** As a public entity, MMWEC was endowed with certain federal, state, and local tax advantages. It could also finance purchases of electrical generating capacity through the sale of tax-exempt bonds. Accordingly, MMWEC could pay a higher purchase price for part or all of an electric utility, such as

Mystic, than an IOU could. See ***Boston Edison Co.***, 7 Mass. App. Tax Bd. Rep. at 131.

In 1978, Congress enacted the Public Utility Regulatory Policy Act ("PURPA"), Pub. Law 95-615, 92 Stat. 3117 (1978). The primary purpose of PURPA was to eliminate the monopolistic environment within the power-producing arena which had been controlled by the IOUs. Pursuant to the provisions of PURPA, IOUs were required to purchase the output from a QF provided the cost did not exceed the "avoided cost," that is, the least costly alternative. See ***D.P.U. 86-36-A.*** PURPA allowed a power plant to be classified as a QF if it was:

> 1) a small power producer of less than 80 megawatts;
>
> 2) a co-generator facility - producing electricity and also selling the thermal energy in the form of steam, for a non-utility purpose; or,
>
> 3) a power plant using a renewable energy source such as biomass, wind or solar.

The creation of a ready market for these entities helped to encourage both the construction of new QFs and the conversion of old power plants. Although PURPA was enacted by the federal government, the states were left to adopt regulations outlining the methods for calculating the price and process for selling power to IOUs.

The continued changes in the power production environment also led to the development of the IPPs which produced power for sale to IOUs. The IPPs' rates were not regulated by either the Massachusetts DPU or FERC, although these commissions had some authority to approve a retail utility purchaser's participation in such a contract. In this regulatory environment, IPPs competed with other IPPs and IOUs.

On this basis, and in consideration of its findings of fact, the Board ruled that, at all relevant times, there were unregulated potential purchasers of all or a considerable part of Mystic who could, and more probably than not, would pay substantially more than net book cost for all or a considerable part of Mystic while still maintaining their economic viability.

In addition to the ever-increasing number of potential buyers who were either not subject, limitedly subject, or only indirectly subject to Massachusetts DPU and/or FERC regulations, regulated potential purchasers of Mystic could discern significant regulatory changes, at both the state and federal levels, which were altering how they could conduct business. The clear ratemaking trend was a move away from a cost-of-service approach to one based on the market.

From a federal regulatory standpoint, as far back as 1936, the United States Supreme Court acknowledged the problems in accounting for utility properties upon sale. The Court observed that the so-called carry-over rule, which based the rates which a purchasing utility could charge on the original cost of the purchased utility property, less depreciation (that is, its net book cost), was often applied to alleviate phantom write-ups. In ***American Telephone & Telegraph Co. v. United States***, 299 U.S. 232 (1936)(***"AT&T"***), the Court recognized that "purchases are frequently made by a member of a system from affiliates or subsidiaries, and with comparative infrequency from strangers. At times obscurity or confusion has been borne of such relations," resulting in a "possibility that [the increase in value] is a nuisance value only." ***Id.*** at 239.

Although the Court viewed such related transactions with skepticism, it ultimately concluded that the federal regulatory authority "is not under a duty to write off the whole or any part of the balance . . . if the difference between original and present cost is a true increment of value." ***Id.*** at 240. ***AT&T*** confirmed to a potential purchaser of Mystic that, more than half a century ago, the Supreme Court accepted the proposition that carry-over rate base treatment was not mandatory when regulated utilities bought or sold utility property.

In 1961, in ***United Gas Pipe Line Co.***, 25 F.P.C. 26 (1961)("***United***"), the Federal Power Commission ("FPC"), FERC's predecessor, explained that the rationale for segregating the original costs, the actual accounting cost, and any write-ups was to prevent "financial abuse in the development of public utility systems, particularly when they became the subject of financial manipulation among holding company groups. [E]ffective regulation required the recording and segregation of these fundamental facts." ***Id.*** at 55. Relying upon the Supreme Court's decision in ***AT&T***, FPC concluded that the "purpose of the segregation was to facilitate scrutiny" but that it "would not necessarily be binding for rate case purposes . . . ." ***Id.*** at 56. For a utility to include the write-up dollars in its rate base, it "must sustain the burden of proof that the excess over original cost produced consumer benefits in the form of reduced rates, improved service, or otherwise, before it is entitled to charge the excess amount to customers . . . ." ***Id.*** So, twenty-five years later, it would appear to a potential purchaser of Mystic that the Supreme Court in ***United*** reached the same conclusion as it had in ***AT&T*** that there was no steadfast carry-over rate base policy.

In 1970, in ***Baltimore Gas and Electric Company and Potomac Electric Power Company,*** 44 F.P.C. 1601 (1970)("***Baltimore Gas***"), FPC authorized Potomac Electric Power Company ("PEPCO") to enter into a transaction whereby property was purchased at three times higher than its book value. Originally, the excess was to be written off below the line, that is, as a shareholder expense. On rehearing, FPC concluded that although the excess over original cost would still be classified as an acquisition adjustment, the disposition would be above the line, allowing PEPCO to include the excess in its rate base. FPC based the modification on PEPCO's ability "to purchase an existing line for far less than it would have cost to build a new line and, additionally, the purchase was good land use practice since it avoided wasteful duplication of facilities." ***Id.*** at 1603.

In the 1978 case of ***Cities Service Gas Company,*** 4 F.E.R.C. ¶ 61,268 (1978)("***Cities Service***"), FERC stated the now familiar principle that "where the price above book value benefits the consumer, it is sometimes appropriate to permit the entire purchase price to go into the rate base . . . ." ***Id.*** Although FERC indicated that a carry-over rate base policy probably existed, a potential purchaser of Mystic could surmise from FERC's decision that the policy was not a *per se* rule and acquisition premiums could be included in a purchasing utility's rate base under certain circumstances. Again, a potential purchaser of Mystic could infer that federal regulators concluded that the appropriate test was whether or not there are benefits to the consumers. ***Id.***

The decisions in ***AT&T, United, Baltimore Gas***, and ***Cities Service*** demonstrate to potential purchasers of Mystic that well before the 1980s, federal courts and regulatory authorities had been conducting case-by-case analyses on whether or not purchasing utilities could include acquisition adjustments in their rate bases. In fact, during this period, FPC and FERC established the guidelines by which a purchase above the net book cost would be fully recoverable in calculating rates. "[I]f the difference between original and present cost is a true increment of value," there is no duty to write off the balance. ***AT&T***, 299 U.S. at 240. When determining if a true increment in value has occurred, the ultimate disposition depended on "evidentiary circumstances." ***Id.*** at 242.

Therefore, a potential purchaser of Mystic could reasonably conclude that acquisition premiums are included in a purchasing utility's rate base if it can be shown "that consumer benefits flowed to the rate payers to the extent of the dollars contained in the account." ***United***, 25 F.P.C. at 50. As evidenced in several of the decisions, FPC and FERC have concluded that the avoided cost of new construction satisfies this "public-benefit" test. ***Cities Service***, *supra*; ***Pacific Power & Light Co.***, 50 F.P.C. 70 (1973); ***Baltimore Gas***, *supra*.

In addition to the more than half century of exceptions to the carry-over rate-base rule, FERC, in the early to mid-1980s, began to move to a market-based ratemaking policy, while still maintaining its practice of granting exceptions, on a case-by-case basis, to the carry-over rule. In its 1983 decision in ***Public Service of New Mexico***, 25 F.E.R.C.

¶ 61,469 (1983)(***"New Mexico"***), FERC authorized bulk sales and energy sales, at market rates, as part of a coordination of sales within an experimental zone in the Southwestern United States. At that time, FERC concluded that utility regulation had become a mere surrogate for a free-market system. Accordingly, FERC determined that federal regulation should be replaced with market pricing. ***Id.*** at 62,037.

FERC observed that "[a]lmost all utilities are now interconnected with their neighbors. Long distance transmission is now technically feasible and often economically practicable. A utility needing to buy power thus can look beyond its contiguous neighbors . . . ." ***Id.*** at 62,059. Therefore, market pricing would release certain market areas from dependence on one supplier and thus lessen the need for regulation. FERC's approval of this experiment was a clear indication of FERC's "departure from a strict cost-equivalency pricing standard." ***Id.*** at 62,049. In ***New Mexico***, FERC stated that it will "move away from cost-based ratemaking in appropriate circumstances." ***Id.*** at 62,060. The appropriate circumstances include "the legitimate statutory objective[s] of the Federal Power Act ("FPA"), i.e., greater efficiency and coordination." ***Baltimore Gas & Electric Co.***, 40 F.E.R.C. ¶ 61,170 at 61,538 (1987) citing ***Pacific Gas and Electric Company,*** 38 F.E.R.C. ¶ 61,242 (1987). They also include another objective of the FPA, that is, fostering and promoting competition. To further this objective, FERC decided to "depart from strict cost-based rates," ***Pacific Gas***, 38 F.E.R.C. at 61,797, recognizing that ultimately, regulations should allow utilities to respond to market conditions wherever possible. ***Id.*** at 61,790.

Consistent with these objectives, FPA was primarily concerned with ascertaining just and reasonable rates. In determining such rates, FERC regarded the "result reached not the method employed [as] controlling . . . ." ***Baltimore Gas & Electric Co.***, 40 F.E.R.C. at 61,538. Consequently, to satisfy the just and reasonable standard, FERC simply required that the price fall within what FERC determines to be the "zone of reasonableness." ***Id.*** "The upper bound of the zone of reasonableness will always be the alternative cost. . . ." ***Id.***

In 1988, in ***In Re: Minnesota Power & Light Co.,*** 43 F.E.R.C. ¶ 61,104 (1988)(***"Minnesota"***), FERC reiterated that the application of the venerable carry-over rate-base rule was only:

> [A]dopted in response to widespread abuses in the electric utility industry that arose through the practice of selling properties at large profits to other public utilities followed by the acquiring utility's inflating plant accounts (and rate base) by the premium paid. The result of this practice was that ratepayers paid higher rates for electric service but received no increase in benefits.

In ***Minnesota,*** FERC also reiterated its long-standing policy of invoking appropriate exceptions to carry-over rate base, on a case-by-case basis:

> Northern State is incorrect when it alleges that the Commission has a per se rule against rate treatment for acquisition adjustments. . . . The Commissioner's accounting policy is that plant be recorded at original cost, less depreciation, and that acquisition adjustments be recorded in a separate accounting. The acquisition adjustment is amortized below-the-line as a shareholder expense. In the event rate recognition of the acquisition adjustment is approved, however, the amortization can be recorded above-the-line to the extent of such recognition.

Id. at 61,342. FERC further stated that if the costs were "prudently incurred and provide[d] demonstrable benefits to ratepayers" the acquisition adjustment would be fully recoverable in the determination of a higher rate. ***Id.***

Shortly after ***Minnesota,*** in ***In re: Ocean State Power,*** 44 F.E.R.C. ¶ 61,261 (1988)("***Ocean State***"), FERC again confirmed that it "may depart from cost-of-service rate regulation when necessary or appropriate to serve a legitimate statutory objective of the FPA," and that it has broad discretion in this regard. In ***Ocean State***, FERC cited to several cases from the mid-1980s where it had "departed from cost-of-service rate regulation and [had] accepted . . . market-oriented pricing . . . ." ***Id.*** at 61,979. On this basis, FERC again concluded that it can rely on market-oriented pricing, thereby leaving an entity unaffected by a carry-over rate base, when a "workably competitive market exists" and "when the seller does not possess significant market power." ***Id.*** FERC could and probably would "accept as just and reasonable the rate . . . [as long as it was] at a cost below its anticipated avoided cost." ***Id.*** Even the dissent to the ***Ocean State*** decision acknowledged that the majority's decision was tantamount to a deregulation of electricity, at least in the Northeast. ***Id.*** at 61,986.

In the case of ***Public Service Co. of Indiana,*** 51 F.E.R.C. ¶ 61,367 (1990), FERC emphasized that "[t]he benefit of the market process that allows [the seller] to provide a service at or below the cost of the buyer's alternatives is important from the standpoint of the buyer, its customers and the Commission." ***Id.*** at 62,226.

Accordingly, under the market-system approach, regulators are more concerned with a cost comparison of the sales price and the avoided cost. The "FPA does not require the Commission to use any particular methodology in determining whether a proposed rate satisfies the statutory standards . . . ." ***Id.*** at 62,222. The most important consideration is that the rate is within a "zone of reasonableness . . . bounded at one end by the investor interest against confiscation and at the other end . . . against exorbitant rates." ***Id.*** The courts have given FERC "broad latitude to depart from traditional cost-of-service ratemaking. . . ." ***Id.*** citing ***Farmers Union Central Exchange, Inc. v. FERC,*** 734 F.2d 1486 (D.C.Cir. 1984).

A potential purchaser of Mystic could reasonably conclude from many FPC and FERC decisions that from a federal regulatory perspective, and at all relevant times in these appeals, acquisition premiums could be included in a purchasing utility's rate base. Moreover, from the early to mid-1980s, market-based ratemaking was replacing cost-of-service ratemaking. FERC was moving "away from cost-of-service rate regulations in favor of competitive, market-based concepts." ***In re: Distrigas Corporation,*** 45 F.E.R.C.

¶ 61,428 at 62,354 (1988). Prices which were below the avoided cost of the buyer would satisfy the "just and reasonable" standard which FERC applied.

On this basis, and in consideration of its findings of fact, the board ruled that, from a federal regulatory standpoint, and, during the years at issue in these appeals, federally regulated utilities could reasonably conclude that acquisition premiums would be included in a purchasing utility's rate base. Accordingly, in addition to potential unregulated buyers, there were also any number of regulated buyers throughout New England and beyond who could reasonably conclude that they were not necessarily limited or constrained by federal regulations to the net book cost of a purchased utility, like Mystic, in their recovery. The Board also ruled that the strong industry trend towards market pricing, which was either foreseeable or in effect during the years at issue in these appeals, substantially diminished the rationale for using an economic depreciation theory when determining the depreciated reproduction or replacement cost of Mystic.

During the relevant time period, regulatory reform was occurring not only at the federal level but also at the state level. FERC observed that Massachusetts was leading the way to regulatory reform with its de-emphasis on the cost-of-service approach to ratemaking. FERC regarded Maine and Massachusetts as the "leaders in developing the concepts of competitive procurement." ***In re: Enron Power Enterprise Corp.,*** 52 F.E.R.C. ¶ 61,193 at 61,710 (1990).

At least up until 1982, Massachusetts utilized the "used and useful" standard as the appropriate test to determine which capital investments of a Massachusetts utility would be allowed in the utility's rate base. Under this standard, an electric utility could collect from ratepayers for a newly constructed electric generating facility once it achieved commercial operation and the electricity from the plant was "used and useful" for the provision of service to customers. **D.P.U. 84-25** at 35-36. However, if a plant construction project were canceled, and the property was, therefore, never "used," the electric company might never recover the money expended through rates. Consequently, a strong incentive existed to complete plant construction regardless of the overwhelming cost, to ensure inclusion in the rate base and recoupment from the ratepayers. The Massachusetts DPU has referred to this inducement as a "perverse incentive." **D.P.U. 86-36** at 2-3.

In April of 1982, faced with the issue of cost recovery for the failed Pilgrim II nuclear power plant, the Massachusetts DPU reviewed its then existing cost-based ratemaking policy. In ***Re Boston Edison Co., D.P.U. 906,*** 46 P.U.R. 4th 431 (1982), the Massachusetts DPU looked to other jurisdictions and noted that "what is becoming increasingly more uniform nationwide is the treatment represented by the most recent decision of [FERC]. That treatment allows recovery of all *prudently incurred costs* in connection with the canceled plant." ***Id.*** at 436 (emphasis added). On this basis, the Massachusetts DPU allowed Boston Edison to recover, through its rate base, those costs which it deemed "prudently incurred" in the construction of Pilgrim II, notwithstanding the fact that the project was never completed.

The Supreme Judicial Court affirmed the Massachusetts DPU's decision and held that "there is no legal impediment to the [Massachusetts DPU's] permitting Edison, or any other utility, to recover its prudent investment . . . abandoned before completion and to recover carrying charges. . . ." ***Attorney General v . Department of Public Utilities,*** 390 Mass. 208, 217 (1983). The Court noted that the "general statutory authority of the [Massachusetts DPU] permits [it] to approve rates reflecting such an investment (G.L. c. 164, § 94)." ***Id.*** at 227.

The Massachusetts DPU's decision to permit Boston Edison's cost recovery in its rate base for the abandoned Pilgrim II plant led the Supreme Judicial Court to observe in ***Boston Edison Company v. Assessors of Boston***, 402 Mass. 1 (1988)(***"Boston"***), that the Massachusetts DPU "might allow adjustments in a purchaser's rate base to reflect a prudent purchase price above the plant's net book cost" ***Id.*** at 15. The Court also recognized in ***Boston*** that "[t]he purchase of an existing generating plant at a price well above its net book cost might be a reasonable one in relation to the cost of construction of a new plant (and further might be reasonable based on other practical considerations). The principle underlying the [Massachusetts DPU's] rule that ratepayers should not have to pay for a facility more than once would carry less weight in this situation." ***Id.***

By 1984, the Massachusetts DPU concluded that the prudence test was not an appropriate standard. ***D.P.U. 84-25*** at 38. It now sought a rule which would ensure that "resources [were] used appropriately and efficiently." ***Id.*** at 39. In furtherance of this standard, it determined that "the first most important goal of price structure is efficiency or optimization." ***D.P.U. Order 84-276*** (September 12, 1985) at 9. It defined "optimization [as] the process of setting prices so that total net benefits to society are maximized." ***Id.*** This meant providing a price structure which would ensure the lowest possible cost and the highest possible benefits to society. The strategy was designed to promote cost-effective investment decisions, similar to FERC's avoided-cost and least-costly-alternative approach.

In the ***D.P.U. 86-36*** series, the Massachusetts DPU eschewed the "used and useful" approach for a "pre-approval" procedure. The Massachusetts DPU concluded that:

> The cost accounting principles used to establish rates for utility services under cost of service regulation, however, generally fail to incorporate successfully the underlying forces of efficiency inherent in competitive markets. Strict adherence to cost of service principles will result in prices which reflect whatever level of inefficiency is inherent in the firm's accounting costs.

D.P.U. 86-36-1 at 10. Under the pre-approval contract approach "a proposed utility's investment would be presented to the [Massachusetts DPU] for approval in advance of the expenditure of project funds." *D.P.U. 86-36-C* at 8. The Massachusetts DPU's analysis would focus on "the net benefits to the ratepayers" by comparing the purchase cost of new generating capacity to the avoidable cost. "Risk and reward are appropriately balanced if utilities bear the risks, and enjoy the potential for reward, associated with changes in the costs of construction and operation of new generation investments, including costs of capital. . . . Payment for availability and output, rather than recovery of cost of service, creates incentives for sound management and fairly allocates risk between ratepayers and shareholders." *D.P.U. 86-36-C* at 78.

While the *D.P.U. 86-36* series focused primarily on new construction and major generation plant investments, it still provided an insight to a potential purchaser on how the Massachusetts DPU might consider the question of cost recovery when an existing or substantial portion of an existing generating station is sold from one IOU to another. An affidavit from former Massachusetts DPU Commissioner

Susan F. Tierney states that any such question "would have been considered on a case-by-case basis."

On this basis, and in consideration of its findings of fact, the Board ruled that, during the relevant years, a potential purchaser of Mystic could reasonably conclude that the Massachusetts DPU would have examined any potential sale of Mystic to another regulated utility on a case-by-case basis. For several of the later years at issue, the Massachusetts DPU would have viewed the potential sale on a "pre-approval" basis, as well. The Board further ruled that if the money spent acquiring all or a substantial portion of the Mystic capacity was the least costly alternative on an avoided cost basis, a potential purchaser could reasonably conclude that the Massachusetts DPU would have probably approved the sale for rate-setting purposes. Accordingly, the Board ruled that, during the years at issue, a potential purchaser could reasonably conclude that it was likely that the Massachusetts DPU would allow a substantial payment over Mystic's net book cost into the rate base of the regulated utility purchaser.[10]

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[10] Two DPU decisions, ***In re Springfield Gas Light Co.***, D.P.U. 17139 (November 17, 1971) and ***In re Boston Gas Co.***, D.P.U. 17138 (December 29, 1971), cited by Boston Edison for

The Board further ruled that, during the relevant years, the pool of buyers for Mystic was not limited to those within Massachusetts, but extended to other IOUs within New England (and even beyond). As members of NEPOOL, these utilities could purchase the subject utility and use the capacity to satisfy their NEPOOL obligations. Where they were not within the Commonwealth, their acquisition costs would depend on the concurrent regulatory structures where the purchasing utility was located.

During the years at issue, New Hampshire utility sales were based on a standard of "for the public good." ***Appeal of Public Service of New Hampshire,*** 471 A.2d 1182, 1184 (S.Ct. N.H. 1984)(quoting ***RSA 374:30***). The case cited gives several examples where the New Hampshire Public Utility Commission approved sales of utility properties at prices higher than net book cost, with the excess being included in rate base. ***Id.*** at 1185.

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the proposition that Massachusetts applied a carry-over rate base rule, are more remarkable for the proposition that the regulated utility buyers paid a substantial amount more than net book to purchase the utility properties. Because little, if any, attempt was made by the proponents to show any public benefits from the sales, the carry-over rule was properly applied under the circumstances. Boston Edison has presented no evidence of the Massachusetts DPU actually applying carry-over rate base after 1971.

During the years at issue, Maine allowed a utility to include in its rate base, and thus to recover from ratepayers, all acquisition costs which were deemed to be prudent. ***Central Maine Power Co. v. Maine PUC,*** 163 A.2d. 767 (Me. 1960). The Vermont Public Utility Commission looked to the "appropriate cost of acquisition," ***In Re Town Hill Water Co., Inc.,*** 422 A.2d 927 (Vt. 1980), while Rhode Island was concerned with those costs which were "fair and reasonable." ***Re Narragansett Electric Co.,*** 93 P.U.R. 3d 417 (1972).

On this basis and, in consideration of its findings of fact, the Board ruled that out-of-state members of NEPOOL could reasonably conclude that they would not necessarily have been required to use an embedded-cost or carry-over rate base. Accordingly, they would not have been limited to paying net book cost for the purchase of all or part of Mystic.

Moreover, the Board ruled that, during the years at issue, there were no regulations or statutes, at either the federal or state level, expressly mandating the carry-over rate base policy. Rather, the rule was a creature of precedent. However, both FERC and the Massachusetts DPU demonstrated a willingness to depart from the so-called traditional ratemaking with both exceptions and a movement toward a market-based ratemaking policy. As such, a regulated utility purchasing or considering the purchase of all or a substantial portion of Mystic during the years at issue could reasonably conclude that it would not have been precluded from recovering an amount paid above the net book cost, provided that amount was less than the avoidable cost. Under these circumstances, a regulated utility could reasonably conclude that it would be permitted to recover the price that it paid for Mystic even if the price approached the depreciated replacement cost without regard to so-called economic depreciation.

Valuation

The assessors are required to assess real estate and personal property at their fair cash value. G.L. c. 59, § 38. The standard to be used in determining fair cash value for taxation purposes is "the fair market value, which is the price an owner willing but not under compulsion to sell ought to receive from one willing but not under compulsion to buy." ***Taunton Redevelopment Associates v. Board of***

Assessors of Taunton, 393 Mass. 293, 295 (1984), quoting ***Boston Gas Co. v. Board of Assessors of Boston***, 334 Mass. 549, 566 (1956)("***Boston Gas***"). "A proper valuation depends on a consideration of the myriad factors that should influence a seller and buyer in reaching a fair price." ***Montaup Electric Co. v. Board of Assessors of Whitman***, 390 Mass. 847, 849-850 (1984) ("***Montaup Electric***").

The burden of proof is upon the appellant to make out its right as a matter of law to an abatement of the tax. ***Schlaiker v. Board of Assessors of Great Barrington***, 365 Mass. 243, 245 (1974)("***Schlaiker***"). The appellant must show that it has complied with the statutory prerequisites to its appeal, ***Cohen v. Board of Assessors of Boston***, 344 Mass. 268, 271 (1962), and that the assessed valuation of its property was improper. See ***Foxboro Associates v. Board of Assessors of Foxborough***, 385 Mass. 679, 691 (1982)("***Foxboro Associates***"). An owner of special-purpose property has the burden of proof even if the property poses unusual problems of valuation. ***Id.*** at 691; ***Reliable Electronics Finishing Co. v. Board of Assessors of Canton***, 410 Mass. 381, 382 (1991); ***Berkshire Life Insurance Co. v. Board of Assessors of Pittsfield***, 12 Mass. App. Tax Bd. Rep. 34 (October, 1989).

The assessment is presumed valid until the taxpayer sustains its burden proving otherwise. ***Schlaiker***, 365 Mass. at 245. The taxpayer's burden of proof may shift in certain instances to the assessors, such as where the taxpayer/owner of electric transmission and distribution property has demonstrated that a buyer's return would be limited by the seller's rate base. ***Boston Edison Co. v. Board of Assessors of Boston***, 387 Mass. 298, 305 (1982) ("***Watertown I***"); ***Montaup Electric,*** 390 Mass. at 852. The Court in ***Montaup Electric*** stated that a "taxpayer, which is a regulated utility, should not be required to establish the lack of special circumstances . . . until there is some evidence offered by the assessors to show that, because of such circumstances, the relevance of [net book cost] is put in question." ***Id.*** at 855. However, the burden of persuasion remains on the taxpayer. ***First National Stores, Inc. v. Board of Assessors of Somerville***, 358 Mass. 554, 562 (1971).

Generally, real estate and personal property valuation experts and the Massachusetts courts rely upon three approaches to determine the fair cash value of property: income capitalization, sales comparison, and cost analyses. ***Correia v. New Bedford Redevelopment Authority***, 375 Mass.

360, 362 (1978). When valuing electric utility property, other valuation techniques have also proved useful in assisting in the determination of, or in checking, the fair cash value of property. For example, in ***Boston***, a "unit cost per kilowatt hour" method of valuation was used as a check on the value ascribed to electric utility property. 402 Mass. at 17. And in ***Boston Edison Co. v. Board of Assessors of Watertown***, 393 Mass. 511 (1984)(***"Watertown II"***), a New York statutory mandate, under N.Y. Admin. Code tit. 9, §§ 197-1.1, 197-3.2 (1983), which provided "that the tangible property of electric corporations be valued at 'the reproduction cost new, less depreciation of the tangible property,'" was considered, but distinguished. ***Id.*** at 513.

The capitalization-of-income or discounted-cash-flow approaches are unreliable when, as here, they use income streams which are unrealistic interpretations and predictions of the existing and future regulatory environment. See ***Boston***, 402 Mass. at 17. "Since utility company property is special purpose property concerning which there is little, if any, evidence of comparable sales, the [current replacement cost or reproduction cost of the property less depreciation] has been considered an appropriate criterion in estimating the fair cash value." ***Montaup Electric,*** 390 Mass. at 850; see also ***Board of Assessors of Quincy v. Boston Consolidated Gas Company***, 309 Mass. 60, 66 (1941)("***Boston Consolidated Gas***"). As a general proposition, depreciated reproduction or replacement cost is a more appropriate method to value special purpose property like Mystic than is its net book cost. See ***Watertown I*** at 304. But, in a regulatory environment where rates (which govern income) are based on a carry-over rate base, the net book cost of a utility property, like Mystic, reflects its restricted earning capacity. See ***id.*** However, the market value for this type of special use property is best determined by considering "all the factors that ought to influence the judgment of a seller and a buyer in reaching a fair price," with profit potential being just one relevant factor. ***Boston Consolidated Gas***, 309 Mass. at 66. And while a governmentally-imposed restriction should be considered in any determination of fair cash value, "the net book cost of the property does not set an upper limit on the property's value for local taxation purposes." ***Watertown I***, 387 Mass. at 302.

The Supreme Judicial Court has noted that the value of property for rate-making purposes "may have little to do with what the property would sell for on a free and open market. The original cost of property, reduced by a fixed annual rate of depreciation, hardly is a guaranteed measure of the fair market value of that property." ***Id.*** at 303-304. Moreover, the Court has determined, as a general proposition, that "depreciated reproduction [or replacement] cost is a more appropriate approach to valuing special purpose property [like Mystic] than is the net book cost of the property. ***Id.*** at 304. In addition, ***In re Springfield Gas Light Co.***, D.P.U. 17139 (November 17, 1971), ***In re Boston Gas Co.***, D.P.U. 17138 (December 29, 1971), and ***Re Boston Gas Co.***, D.P.U. 88-67 (September 30, 1988), are a few examples where regulated utilities paid far more than net book cost for the purchase of utility property despite the existence of a carry-over rate base policy.

The Supreme Judicial Court has proffered some considerations which mitigate against using net book cost to value an electric utility generating plant and favor using depreciated reproduction or replacement cost. They are: 1) when the rate of return on an investment in the property is expected to exceed the current rate; 2) when the rate of return exceeds the market rate of return for an investment of similar risk; 3) when there is a possibility that the law or regulatory decisions might change to make an investment in the property more attractive; 4) when there is potential for utility growth; and 5) when there is a possibility of finding a non-public utility purchaser. ***Watertown I***, 387 Mass. at 305-306.

In the present appeals, the Board found that, during the relevant fiscal years, potential purchasers of Mystic could reasonably conclude that the so-called restricted regulatory environment was replete with exceptions and was moving away from traditional carry-over-rate-base regulation in favor of market-based rates. The Board further found that both regulated and unregulated buyers more probably than not would have paid substantially more than net book cost to purchase all or a significant part of Mystic. The Board also found that Boston Edison would not sell Mystic for just its net book cost. These findings justify the Board's determination that a buyer of Mystic would have paid substantially more than its net book cost. See ***Watertown I,*** 387 Mass. at 305-306; and ***Montaup Electric,*** 390 Mass.

at 853. Recognizing that an unregulated buyer might be available to purchase the property, the Court in ***Boston*** upheld the Board's finding that the electric utility property's valuation was appropriately determined by using a one-to-one ratio of 50% depreciated reproduction cost[11] and 50% net book cost. 402 Mass. at 13-14. Consistent with its finding in ***Boston***, and in recognition of the changes in the regulatory environment for the years at issue, the Board conservatively determined in the present appeals that a valuation methodology based on a two-to-one ratio of depreciated replacement cost to net book cost properly reflected the contemporaneous regulatory climate, the probable avoided cost, the intrinsic value of Mystic, and the potential purchasers of Mystic.

"The [B]oard is not required to adopt any particular method of valuation." ***Pepsi-Cola Bottling Co. v. Assessors of Boston***, 397 Mass. 447, 449 (1986). Nor is "[t]he [B]oard . . . required to believe the testimony of any particular witness but it [can] accept such portions of the evidence as appear[s] to have the more convincing weight. The market value of the property [can] not be proved with mathematical certainty and must ultimately rest in the realm of opinion, estimate, and judgment. . . . The [B]oard [can] select various elements of value as shown by the record and from them form . . . its own independent judgment." ***Boston Consolidated Gas,*** 309 Mass. at 72. See also ***North American Philips Lighting Corp. v. Board of Assessors of Lynn***, 392 Mass. 296, 300 (1984); ***New Boston Garden Corp. v. Board of Assessors of Boston***, 383 Mass. 456, 473 (1981)("***New Boston Garden***"); ***Jordan Marsh Co. v. Board of Assessors of Malden***, 359 Mass. 106, 110 (1971). "[T]he [B]oard is not strictly confined to the range of the testimony with regard to total value. By selecting higher range components of value from the testimony, the [B]oard could find a total value supported by the evidence that is outside the range of the testimony. ***New Boston Garden,*** 383 Mass. at 467.

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[11] The Court remanded the proceedings to the Board to consider, among other things, the question of the use of replacement rather than reproduction costs as to certain aspects of the generating plant, but *not* to reconsider the ratio which it applied.

The Supreme Judicial Court "has recognized the feasibility of using both the [depreciated-reproduction or replacement-cost] approach and the rate base value" to value the property of an electrical utility company for property taxation purposes. ***Montaup Electric,*** 390 Mass. at 850, citing ***Watertown I,*** 387 Mass. at 301-302. Where the Board finds "a number of forces whose influence [has] an effect on the price at which a generating plant might [be] sold, . . . the [B]oard [has] to express the combined effect of these factors in numerical terms in valuing the plant, but their influence cannot be quantified in a way which will support a result with mathematical precision." ***Boston,*** 402 Mass. at 16. The Board is also entitled to rely upon its views of the subject property. See ***Westport v. Bristol County Commissioners***, 246 Mass. 556, 563 (1923).

The mere qualification of a person as an expert "does not endow his testimony with any magic qualities." ***Boston Gas,*** 334 Mass. at 579. The failure of an expert to embrace the proper definition of fair cash or market value puts "in question the weight to be accorded the . . . expert's testimony." ***Kolligan v. City of Cambridge***, 18 Mass. App. Ct. 991 (1984)(rescript opinion). The opinion of an expert witness must be based on proper foundation. ***State Tax Commissioner v. Board of Assessors of Springfield***, 331 Mass. 677, 684 (1954). Accordingly, the Board ruled that Dr. Cicchetti's opinion of value for Mystic, which was based upon a mistaken definition of fair market value which included a seller under compulsion to sell, was flawed and for this, as well as many others reasons, entitled to little weight.

With respect to the Monsanto property, the sale price recited in the deed does not provide conclusive evidence of fair cash value. ***Foxboro Associates,*** 385 Mass. at 682. It is "to be weighed with all the other evidence," ***Tremont & Suffolk Mills v. Lowell***, 271 Mass. 1, 15 (1930), and objectively adequate reasons may exist for ignoring it. ***Foxboro Associates***, 385 Mass. at 683. As described *infra*, the Board found several objective reasons for giving the monetary consideration recited in the Monsanto-to-Boston Edison deed minimal weight.

The Dissent raises many points in disagreement with the Board's decisions in these appeals. Virtually all of them were considered but rejected by the Board. Most of the Dissent's criticisms deal with evidentiary findings and issues. While there may be evidence and analyses to support some of the Dissent's opinions, the Board's findings and rulings are supported by substantial evidence in the record and a proper application of the law. The fact that the Dissent may have reached a different conclusion based on its view of the evidence is, therefore, of no consequence. The Board gave different weight to the evidence than the Dissent gave. Without exhaustively responding to each and every point raised by the Dissent, the Board answers some for illustrative purposes.

The Dissent maintains that the Board should not have adopted a depreciated-replacement-cost methodology which utilized a per-kilowatt cost of $1,069 as a starting point. Rather, the Dissent urges Mr. Kelly's figure of $707. The Dissent argues that the $1,069 figure is higher than the one(s) urged by the assessors, improperly shifts the burden of proof, includes amounts for property not in Everett, is contrary to the parties' stipulations on land value for depreciated-replacement-cost purposes, and is, essentially, unsubstantiated.

The $1,069 figure which the Board adopted is Edison's own published figure for the cost of the Edgar plant. As such, it is an admission. Further, $1,069 was one of several figures put forward by the assessors throughout the proceeding and in their post-trial written submissions. It was not the highest figure offered in this regard. The Board found that the $1,069 figure best reflected the cost of a combined-cycle plant under the circumstances and was also fairly substantiated by other evidence, such as Mr. Terajewicz' unbiased testimony regarding the cost to construct the Ocean State Power Plant, Mr. Taylor's equivalent value, and even Mr. Kelly's bare estimate of $707 as the cost of the Edgar facility (which the Dissent has adopted and which is contrary to essentially all of the other evidence), once fuel transmission and working capital costs were properly added. The $1,069 figure is based on *actual projected* costs. It was properly trended for the years at issue in these appeals. Even if the Board had adopted a figure in the $900 range, the indicated value would still have exceeded the assessments for all years at issue. Moreover, assuming the $1,069 figure was higher than the figure on which the assessors relied still would not render the Board's finding erroneous. See, e.g. ***New Boston Garden,*** 383 Mass. at 467 (upholding the Board's finding of value outside the range of expert testimony).

There is no support for the notion that the Board's adoption of the $1,069 figure relieved the assessors of any burden of proof that they may have had with respect to the issue of regulatory change. At any rate, the assessors submitted substantial evidence and offered a reasonable analysis in this regard. In balancing net-book-cost and depreciated-replacement-cost values in its determination of Mystic's fair cash value, the Board weighed not only the issue of regulatory change, but also many other considerations, including the possible, or indeed probable, presence of unregulated buyers not only in New England, but beyond.

The Board's inclusion of a value for gas transportation fees in its replacement-plant figure is appropriate under the circumstances. The parties' stipulation to Mystic's land value for depreciated-replacement-cost purposes was limited to its fair cash value as unimproved land "independent of its past or current use as the site for a generating plant." As the Dissent points out, "site" is ordinarily defined as "land that is so improved that it is ready to be used for a specific purpose." Accordingly, it is most appropriate to include a value for gas transportation in the depreciated-replacement-cost methodology because the increased value of the parcel due to Mystic's proximity to fuel is not subsumed in the stipulated land value of Mystic. Even the Dissent appears to agree that this "off site improvement" enhances the value of the site. Furthermore, the inclusion of capital costs is also a proper appraising practice for this methodology. The Dissent's analysis appears to be confusing replacement cost with reproduction cost. At any rate, Mr. Kelly's figure, when properly adjusted for replacement-cost methodology, lends further support to the Majority's finding.

The Dissent also criticizes the overall depreciated-replacement-cost values which the Board found for Mystic by faulting the Board's depreciation figures, life expectancies attributed to the property, and adoption of an approach which even the proponent, Mr. Taylor, supposedly disavowed. These criticisms are misleading.

In two of the years at issue, the relative fuel costs were such that even with its relative age and inefficiencies Mystic was more economical to operate than a new plant. The assessors compare this phenomenon with the notion of "grandfathering" which can change the relative values of otherwise equivalent properties, thereby rendering the older property more valuable. Mr. Taylor's methodology was therefore not unreasonable.

The life expectancies applied by the Board to Mystic's generating units were supported by the record and involve proper methodology. Again, the Dissent appears to be confusing the replacement with reproduction methodology.

As for the Dissent's assertion that Mr. Taylor disavowed his own methodology, the Dissent has taken his comment out of context. The Board interpreted Mr. Taylor's comment generally to mean that the depreciated-replacement-cost methodology is just part of the process for finding the fair cash value of Mystic which cannot be ascertained with mathematical certainty.

Relying extensively on *post facto* regulatory pronouncements, the Dissent also maintains that the Board misread the regulatory setting which existed during the relevant years. However, the important inquiry in this regard is how a potential purchaser would perceive the regulatory setting during the years at issue. The Board analyzed this issue carefully.

Indeed, the Board's reading of the regulatory setting has previously been upheld. In 1988, the Supreme Judicial Court ruled that the Board,

> not unreasonably saw in the decision of the Department of Public Utilities that we upheld in ***Attorney Gen. v. Department of Public***

> ***Utilities***, 390 Mass. 208 (1983) the possibility that the [Massachusetts DPU] might allow adjustments in a purchaser's rate base to reflect a prudent purchase price above the plant's net book cost.

Boston, 402 Mass. at 15. In upholding the Board's finding of value in excess of the generating plant's net book cost, the court in ***Boston*** went on hold that:

> The difference between the transmission and distribution property involved in the ***Watertown*** case and the entire generating facility in this case supports the [B]oard's determination that the department might view (***indeed, we say, might have to view) the rate base issue differently. The purchase of an existing generating plant at a price well above its net book cost might be a reasonable one in relation to the cost of construction of a new plant (and further might be reasonable based on other practical considerations).*** The principle underlying the department's rule that ratepayers should not have to pay for a facility more than once would carry much less weight in this situation.

Id. (emphasis added).

The remainder of the issues raised in the Dissent are either variations of the issues previously addressed or otherwise require no further response.

Conclusion

On the basis of the foregoing, the Board found and ruled that, upon all of the evidence, Boston Edison failed to meet its burden of persuading the Board that a buyer of the Mystic property would have its return significantly limited by the carry-over rate base. Even if a buyer would have had its rate of return limited, the Board found and ruled that the assessors had shown the presence of certain circumstances which could induce a buyer of all or a substantial portion of Mystic to pay substantially more than its carry-over rate base value. The Board further found and ruled that Boston Edison failed to meet its burden of proving that the valuation of the Mystic property, as well as the valuation of the Monsanto property in fiscal years 1986 and 1987, was excessive or improper.

However, the Board did find and rule that Boston Edison met its burden of proving that the Robin and Rover Streets property was overvalued in all of the fiscal years at issue, and that the Monsanto property was overvalued in fiscal years 1988, 1989, and 1990. The Board also found and ruled that Boston Edison met its burden of proving that it was entitled to an exemption for the pollution abatement property for fiscal years 1987, 1988, 1989, and 1990, but not before then.

Accordingly, the Board entered its decisions for the Appellant in docket numbers 113120, 117494, 126060, 131839, 140248, 152500, 152501, 152502, 152503, 166407, 166408, 166409, 167167, 167168, 167169, 174542, 174543, and 174544. The Board entered its decisions for the Appellee in docket numbers 140245, 140246, 145330, 145331, 145332, 148122, 148123, 148124, 148125, 148126, and 152504.

APPELLATE TAX BOARD

By: ______________________
Kenneth W. Gurge, Chairman

A True Copy,

Attest: ______________________
Clerk of the Board

Commissioner Timothy O'Brien, dissenting in part and concurring in part:

I dissent from the decisions of the Board on issues of valuation, except as to the Robin and Rover Streets property, where values were stipulated by the parties. I concur that an exemption is available for the pollution abatement property, pursuant to G.L. c. 59 § 5, cl. 44, only for fiscal years 1987 through 1990. I further concur with the Board on the method of allocation used to determine the abatement due the appellant.

In the opinion portion of its Findings of Fact and Report the Board expends approximately thirty-three pages to explain the legal rationale for its decision. It might more succinctly have stated, "The decision is for the appellee, *See, **Boston Edison Company v. Assessors of Boston,*** 402 Mass. 1 (1988) ('**Boston**')." In reaching its decision, the Board assumed as a baseline the 50% probability of a purchase at above rate base, as set out in the prior decision of the Board and the Supreme Judicial Court in the ***Boston*** case. In determining value for the plant, it also made no attempt to look beyond replacement cost, a standard which the Court found appropriate in the ***Boston*** case.

As the ***Boston*** case presented issues identical to those before the Board in the present appeal, it obviously has importance. The disagreement I have with the Board is that I believe it considered the case in a vacuum, rather than through the prism of the marked changes that were occurring in the marketplace throughout the years at issue. The Boston case dealt with appeals for fiscal years 1977 through 1982. In none of those years had the changes envisaged with the enactment of the Public Utility Regulatory Policy Act ("PURPA") been brought to fruition. The goal of PURPA was to increase competition in the marketplace, first with Qualifying Facilities ("QF's"), then with Independent Power Producers ("IPP's"). It was anticipated that these competitors, smaller, more lean, and less capital intensive could underprice the traditional monopoly utility rate base supplied electricity in the marketplace. Market competition was introduced because it was anticipated that such competition would benefit the ratepayer. It's a matter of simple supply and demand. For a given level of demand, as the supply of a commodity, or the number of vendors bidding to supply it increases, the price is going to go down.

The Board cites numerous cases, as well as orders and decisions by FERC and the DPU, for the proposition that the existing regulatory regime as it relates to the carryover rate base rule has been abandoned. It completely ignores, however, the concomitant movement towards greater competition in the marketplace and the effect of the more competitive market on the choices available to a prospective purchaser. The Board simplistically assumes that the market as it existed during the years at issue was the same as that which existed during the ***Boston*** case and thus finds it unnecessary to look beyond replacement cost. I submit, however, that given the choices available to a prospective purchaser during the years at issue, which were not available at the time of the ***Boston*** case, no rational purchaser would make the choices implicit in the Board's decision. I don't think the Board's findings or opinion evidence any depth of analysis. While at first blush they may appear to justify the Board's decision in terms of a market based analysis, in reality the Board in this case never gets past 1982 and the decision in the ***Boston*** case. Its findings and opinion are determined by its decision rather than vice versa.

In my brief discussion concerning the introduction of competition into the marketplace the carryover rate base rule was put to one side. In the ***Boston*** case the Board, relying on the decision of the Supreme Judicial Court in ***Attorney General v. Department of Public Utilities,*** 390 Mass. 208 (1983) found that there was a reasonable likelihood that the DPU would approve a sale at above rate-base if the purchase was prudent and reasonable. The Court, in upholding the Board's determination, found that a purchase at a price above rate base might be a reasonable one in relation to the cost to construct a new plant. The Board cites the ***Boston*** case as authority for the proposition that the DPU "might allow adjustments in a purchaser's rate base to reflect a prudent purchase above the plant's net book cost." But again speculation is not necessary. If the

Board had chosen to move beyond the ***Boston*** case it would have addressed D.P.U. 93-167-A, promulgated August 3, 1994, which in unambiguous terms states that prior thereto, the DPU had regarded inclusion of an acquisition premium in rate base as ***per se*** inadmissible.[12] I believe D.P.U. 93-167-A is definitive on the issue of whether the D.P.U. would have allowed a sale at a price greater than rate base. But it played no part in the decision of the Board and there was no mention of it in the Board's Findings of Fact and Opinion, at least until it was raised in this dissent.

I also think the Board paints with too broad a brush. As an example it relies principally upon D.P.U. 86-36-C for the proposition that the DPU had abandoned the carryover rate base principal. Although it was not issued until 1988, under the Board's analysis it should apply for all years. And although by its terms it applies only to "new electric generating facilities" the Board finds that it applies to existing utility assets already in rate base. There is similar imprecision in its consideration of unregulated purchasers. All that is necessary in the Board's opinion is to state that unregulated purchasers exist, with nothing more, and thereby find sufficient support for a finding that they are likely purchasers. I think this imprecision also extends to representations concerning testimony of witnesses, whether through failure to consider the testimony at all, or through misstatement of what was actually said.

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[12] Although this decision was issued after the last assessment date, it is clearly relevant in that it states the position of the DPU concerning acquisition premiums during the years at issue. The decision of the Supreme Judicial Court in ***Attorney General v. Department of Public Utilities,*** 390 Mass. 208 (1983), which the Board relied on in the ***Boston*** case was issued more than two years after the last assessment date for years at issue.

Nowhere, however, is the Board's lack of precision or attention to detail more obvious than in that portion of the Findings of Fact and Report dealing with its valuation analysis, as will be shown by the portion of this dissent which immediately follows.

I. VALUATION

A. Admission as to Value Binding upon the Appellee.

In arriving at its opinion of fair cash value the Board adopted a depreciated replacement cost methodology and utilized a per kilowatt cost of $1,069 as a starting point, which the Board determined to be the cost of Boston Edison's Edgar plant. I have a number of difficulties with this figure, not the least of which is that it is higher than the figure the appellee urged as appropriate for the Board to use. In closing arguments before an *en banc* hearing of the Board, counsel for the appellee argued:

> It's up to this Board to pick replacement cost. There's a wide range of evidence on it. I think there is to some extent a convergence at least in 1989, of somewhere between $800 to $900 per kilowatt.[13]

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[13] In determining replacement cost, both parties determined base year estimates for January 1, 1989, and then by use of the Handy-Whitman

And further on he stated:

> My judgment is the Ocean State's purchase or construction is the most relevant to use. Edison in these years bought a piece of that plant for use for its customers, and they paid the price of the 900 and something dollars per kilowatt for the piece of this plant.[14]

In its Requests for Findings of Fact and Rulings of Law the appellee asked the Board to find:

76. Mr. Chambless' estimate of the cost of a combined cycle plant in 1990 dollars of $881/KW is a reasonable estimate of the cost of a combined cycle plant to replace Mystic.

119. It is undisputed that the cost to construct Ocean State Power was $936.4 per kilowatt. Therefore, the income stream based on the Ocean State Power contract would generate a value equivalent to its cost, i.e., $936.4 per kilowatt.

Index of Public Utility Construction Costs (Handy-Whitman Index), trended in order to calculate a cost adjusted figure for any other year.

[14] I would consider these statements by appellee's counsel in closing arguments a judicial admission binding upon his client. The statements were made at a time when all evidence was available to him, and after post-trial briefs and reply briefs had been submitted by the parties. "The attorney for a party may make a judicial admission binding upon his client. ***Lucia v. Water & Sewer Commissioners of Medford,*** 332 Mass. 468, 125 NE 2nd 1776 (1955), ***Lewis V. Sumner,*** 54 Mass. (13 Metc) 269 (1847). Such admissions may be made (a) by stipulations during the trial or before it; (b) by the opening statement of counsel at the trial; (c) by remarks or statements made by counsel during the trial; or (d) by conduct of counsel during the trial." PAUL J. LIACOS, HANDBOOK OF MASSACHUSETTS EVIDENCE § 2.5, at 34 (6th ed. 1994).

Concerning this latter value, the appellant presented credible evidence that numerous costs would have to be removed before Ocean State Power could be considered comparable to Mystic Station.[15] However, even assuming that the $936.4 per kilowatt figure is correct, it could not be utilized without an adjustment for inflation because of the time differential.[16] After that adjustment is made it is apparent that the Board determined a replacement cost by reference to a figure 27% ***higher*** than that urged by the appellee. Even if no adjustment is made for time, the per kilowatt figure used is 14% ***higher*** than the appellee urged the Board to use.

In my experience, in entering a decision for an appellant, this Board has never found a value lower than that urged on the Board by an appellant, even if the evidence so indicated, and I believe that it would be inappropriate for the Board to do so.[17] If the Board is to be consistent, I also feel that it is inappropriate for the Board to use a value higher than that urged on it by the appellee.[18]

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[15] The appellee derived its $936.4/kw by reference to estimated cost figures for Ocean State Power 1 ("OSP 1"). The Ocean State Project was comprised of two 250 MW combined cycle generators. The assessors simply divided the OSP 1 estimated costs by 250 MW. Mr. Terajewicz, called by the appellee, testified that the figures utilized by the assessors included numerous costs associated with OSP 2, which should not have been included to determine a per kilowatt cost for OSP 1. He testified that inclusion of these items improperly inflated the costs for OSP 1. Other costs to be removed included $18,900,685 for a ten-mile water pipeline, which would not have been part of a replacement cost for Mystic Station, as well as $7,000,000 for working capital. In total over $50,000,000 in costs were identified which would have to be removed from the estimated OSP 1 costs before they could be used as a basis of comparison to Mystic Station. Inclusion of these items inflates costs on a per kilowatt basis by approximately $200.

[16] The Ocean State Power figure reflects the cost for completion in 1991. To determine a per kilowatt cost as of January 1, 1989, an adjustment would have to be made. Assuming an inflation rate of 5% per year the equivalent 1989 figure is $845 per kilowatt.

I also feel that it is inappropriate as a matter of burden of proof. As will be shown, the burden of production, or going forward with evidence, is on the appellee to show why a purchaser of Mystic Station would pay more than net-book value. A critical component of that burden is to demonstrate a change in the regulatory environment such that a sale at above rate-base would be approved by the applicable regulatory authorities. In this particular appeal the Board determined value by weighting depreciated replacement cost and rate-base, using a 2:1 ratio. To the extent that a higher replacement cost is found, a lower probability of regulatory change is necessary to reach a particular result, in this case a determination of value in excess of assessed value. By finding a replacement cost by reference to a cost figure higher than that urged by the appellee, I feel the Board inappropriately skews the burden of proof on the issue of regulatory change in the appellee's favor.

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[17] Again, it is my position that when the appellant claims a certain value for its property, it is in the nature of an admission that the property does not have a lower value.

[18] The issue seldom arises in the context of a decision for the appellee, as, in most such cases, all that is necessary is that the Board find a value greater than assessed value. It is not necessary then to state the actual value found.

B. The Board Errs in the Inclusion of Pipeline Costs and Working Capital Costs in its Derivation of Replacement Costs.

The Board adopted the figure of $1,069 per kilowatt on the basis that it was the cost to build the Edgar Energy Park, which was a combined cycle facility to be built in the Town of Weymouth, on the Fore River site of the decommissioned Edison plant. The appellee determined that during the years at issue, a replacement of the existing facility would have been with a gas/oil fired combined cycle plant.[19] For its cost approach, the appellant's expert, John P. Kelly, also relied on the Edgar facility, specifically the cost Boston Edison was projecting for construction of the plant. The costs used by the appellant were those based on a lump sum firm bid of the United Engineers and Constructors, Inc. contained in the submission entitled "Edgar Energy Park Project," dated May 1, 1990, made by Boston Edison to the Energy Facilities Siting Council. Those costs were projected for construction starting in 1991 through to completion in 1993. To determine costs for the applicable assessment dates, Mr. Kelly adjusted those costs back to January 1, 1990, using an inflation rate of 5%, and then from that date back to the years at issue using the Handy-Whitman Index. On this basis, Mr. Kelly determined a cost of $707 per kilowatt for January 1, 1989, rather than the $1,069 determined by the appellee. Mr. Kelly's calculation was made by reference to a table in the Edgar Energy Park Project document which provided a breakdown, by 25 separate line items, of the total cost of the project.

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[19] Dr. Charles Cicchetti, an expert for the appellant, testified that during the period January 1, 1983 through January 1, 1985, Mystic Station would have been replaced with a coal plant. He pointed out that from 1978 until 1987, federal law prohibited the construction of any new electric power plant that was primarily fueled by any fossil fuel except coal. The Federal Power Plant and Industrial Fuel Use Act of 1978, Public Law 95-620, 92 Stat. 3289 (1978) prohibited the use of natural gas or oil as a primary fuel source for new electric generating plants. In certain instances exceptions were allowed, and, commencing in 1985, there was a mushrooming of filings, a significant number of which were for combined cycle plants. Between 1981 and 1985, New England utilities converted more than 2,200 MW of capacity to coal. John P. Kelly, also an expert witness for the appellant, assumed that for all years at issue Mystic Station would have been replaced with a combined cycle facility.

The $1,069 per kilowatt figure that the Board relied on was derived from a document titled "Performance Management Study," also dated May 1, 1990. This figure was adduced by the appellee on cross-examination of Mr. Kelly for purposes of impeachment. In the document there is no detailed breakdown of costs to show how the figure was developed. Indeed, it is but one single figure, with no explanation, in a fifty page report. It was Mr. Kelly's opinion, however, based on further examination of the Edgar Energy Park Project document that the $1,069 per kilowatt figure included a working capital amount of $50.00 per kilowatt as well as a fuel transportation capital cost of $287 per kilowatt. This latter item was interpreted by the appellee as the cost to construct a gas pipeline to provide fuel for the proposed Edgar Facility.[20] The appellant does not appear to dispute this, and it was the interpretation accepted by the Board at the time it entered its decision for the appellee. The locus of this pipeline appears to extend all the way to Texas. Reference to the Edgar Energy Park Project document indicates that a portion of the cost is associated with an investment to provide transportation of natural gas from the Gulf of Mexico. At page 6-3 it is stated:

> The Edgar Energy Park Project has solicited and received specific cost estimates for the pipeline investment necessary to provide transportation of a firm gas supply from the United States onshore/offshore Gulf producing area to the Weymouth site. Both the Algonquin-Panhandle Eastern and the Tennessee Pipelines have submitted cost estimates, with the Algonquin-Panhandle Eastern alternative being chosen based upon economics.

Additionally, there is to be constructed from Edgar Energy Park a pipeline to connect with the Algonquin pipeline facility in Sharon, Massachusetts:

> Algonquin, at the request of Boston Edison, has initiated a Federal Energy Regulatory Commission (FERC) Environmental Assessment Study on a proposed lateral pipeline extension from Algonquin's existing pipeline facility in the Sharon/Canton, Massachusetts area to the Weymouth site ....It is expected this effort will

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[20] In its brief the appellee states that "[a]lthough the cost is portrayed as a transportation fee for gas, it is clearly calculated as an amount necessary to pay for the construction of the gas pipeline."

> culminate in a recommended pipeline route to the Edgar Energy Park which would utilize the existing Boston Edison transmission right-of-way from the Sharon/Canton area.

Id.

Whether the pipeline to be constructed for the Edgar Energy Park Project extends from Texas, Sharon, or both, there is no basis in law, logic or common sense to include its cost as part of the replacement cost of a generating plant on a parcel of property in Everett.[21] What should be the most obvious reason is that such a pipeline did not exist and could not exist on the subject parcel on the dates at issue. The cost of a pipeline, off site, could not be part of the replacement cost of a plant on the Mystic site.[22]

On cross-examination, the following question was posed to Mr. Taylor, the appellee's expert witness:

> Q. Now, if the Edgar plant lacked, let us say, for example, a bridge across the Fall (sic)

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[21] The pipeline investment for the Edgar Energy Park Project was necessary to provide transportation for a firm long-term gas supply to meet its entire annual fuel requirements for 365 days a year. With an interruptible source, Boston Edison projected that natural gas would be available for seven months of the year. A firm gas supply insures the ***least cost*** and most reliable supply. Mystic Station operates with an interruptible gas supply through its connection to the Boston Gas pipeline. According to Dr. Cicchetti, natural gas prices declined from 1981 to 1985 and also into 1986. By mid-1986, spot natural gas prices were one-half their early 1985 levels.

[22] Replacement cost is defined as "The estimated cost to construct, at current prices as of the effective appraisal date, a building with utility equivalent to the building appraised, using modern materials and current standards, design and layout." Appraisal Institute, ***The Dictionary of Real Estate Appraisal*** (Third Edition) at 303.

> River, like the bridge that connects Mystic to Charlestown, and such a bridge were to be built, that in your view would be an appropriate addition to the value of the replacement plant, would it not?
>
> A. If it were used to get access to the property, yes, that would be a site development cost.

Of course, on that rationale, the value of the Tobin Bridge should be included as part of the replacement cost of Mystic Station. While such a result would be preposterous, it is no less preposterous to include the cost of constructing a pipeline extending to Texas as part of the replacement cost of the plant in Everett. "The only rule necessary to the decision in this case is that the valuation of the land and buildings in the aggregate must be equal to the full and fair cash value of the whole parcel, including the land and the buildings ***as they exist*** at the time as of which the valuation is made, considered with reference to all practicable uses to which the parcel of land with buildings on it can be put." ***Tremont & Suffolk Mills v. Lowell,*** 163 Mass. 283, 288 (1895) (emphasis added).

Mystic Station receives natural gas to fuel Mystic 7 through a connection, located at the junction of Dexter and Grover Streets, to a pipeline owned and operated by Boston Gas. The portion of the pipeline on Edison property is approximately 200-300 yards in length. The parties have, however, through their Second Stipulation of Fact, foreclosed any issue as to valuation of that portion. For all years at issue, the parties stipulated as to the items of real and personal property belonging to the appellant, "which are the only items involved in this proceeding as to fiscal year[s] [at issue] [and] were located in the City of Everett." In the 73-page stipulation there is no mention of a pipeline.

While the pipeline owned and presumably assessed to Boston Gas might be considered an off site improvement,[23] for purposes of ad valorum taxation, it is only the land portion of the subject parcel that would absorb any value associated with the pipeline.[24] The parties have stipulated to land value which would include any accretion to value associated with its proximity to the Boston Gas pipeline. Further, the Board includes one-hundred percent of the cost to construct the off site pipeline in determining its value for Mystic Station. Even if value had not been stipulated to, this position would be unsupportable and oblivious to the fact that the pipeline would also be taxed by those jurisdictions through which it passes. The full value would be taxed twice.

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[23] Site improvements are defined as "Improvements on and off a site that make it suitable for its intended use or development. On site improvements include grading, landscaping, paving, and utility hookups; off site improvements include streets, curbs, sidewalks, drains and connecting utility lines." *Id.* at 334.

[24] Site is defined as "Land that is improved so that it is ready to be used for a specific purpose." *Id.*

Mr. Kelly also excluded working capital in the amount of $50.00 per kilowatt from his valuation. Working capital is defined as "The readily convertible capital that a business uses to conduct operations; in accounting, current assets minus current liabilities as of a certain date."[25] Working capital is an intangible asset, essentially cash and receivable less accounts payable and the current portion of long term obligations. Pursuant to G.L. c. 59, § 18, it is only ***tangible*** personal property which is assessed to the owner within a city or town. By including working capital in its valuation, the majority improperly included an asset which is not subject to ad valorum taxation at the local level.[26]

Removing these amounts, $287 per kilowatt for the pipeline and $50 per kilowatt for working capital yields a cost of $732 per kilowatt. Considered in context, it is clearly Mr. Kelly's figure that is supported by substantial evidence, and not that found by the majority. The $1,069 per kilowatt figure was introduced by the appellee for the purpose of impeaching Mr. Kelly's testimony concerning his $707 per kilowatt figure. Using information available, Mr. Kelly was able to substantially reconcile his figure with the $1,069 figure presented by the appellee. Further, the validity of Mr. Kelly's figure is authenticated by reference to its 25 individual cost components. The Board adopts a figure that it is impossible to break down into its cost components, for it is nowhere disclosed in the record. Indeed, the foundation for the majority's decision on the issue of valuation comes down to but a single item, with no detail, in a fifty page report, one of one-hundred sixty exhibits introduced during 28 days of testimony. As soon as the Texas pipeline and the working capital are removed, the tenuous nature of that foundation is apparent.

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[25] ***Id*** at 396.

[26] Working capital is a component of value for purposes of the non-income measure of the corporate excise tax.

C. The Errors and Misconceptions Evident in the Board's Determination of Value, as Contrasted with Value Determined by the Appellant's Expert.

The Board states that "[t]he replacement cost approach used by one of Boston Edison's experts, Mr. Kelly, was appropriate for the Board to use for its replacement cost analysis after several errors and misconceptions were corrected. The assessors approved of this approach." With due respect to the assessors, I don't think their acceptance of this approach was a matter of largess concerning Boston Edison. I believe their own valuation analysis was so replete with errors and double counting that it could not have supported a decision for the appellee. As the Board properly rejected the analysis, it is not necessary to deal with it in detail; however, some examples may be instructive, as they are referenced in the majority's opinion. Mr. Taylor, in his appraisal report, inflated the value of the subject property between thirty-five million and fifty million dollars by the addition of numerous off site "adders." They included its proximity to wholesale gas suppliers, deep water river frontage, its historic use as a steam generating plant using cooling water from the adjoining river, and its location within a major electric load area. As with the pipeline, these items have nothing to do with the replacement cost for existing buildings on the subject parcel. While they may add value to the site, as stated previously, land value was stipulated to by the parties.[27]

As the Board finds, Mr. Taylor also added another thirty-five million dollars "to account for savings in interest costs the Mystic facility would have offered over the construction of a replacement plant." Although it is unclear from the Board's findings, reference to the appraisal report indicates that the justification for this addition is that the existing location would be easier to permit than a "remote" site because of its historic use as a fossil fuel generating station. He estimated that there would be a six month delay in permitting the remote site, which would result in the incurrence of $35,000,000 in additional interest. This addition is unwarranted. First, the issue is the valuation of Mystic Station and not some remote site. Further, in his computation of replacement cost, Mr. Taylor includes the cost of permitting. He lists 33 different permits or approvals that would be required, and in his appraisal for the years at issue includes a cost associated with the permitting of from $7.7 million to $10 million dollars. To ***add*** another $35,000,000 because permits may be ***more easily*** procured at the Mystic site than at the remote site is illogical and nothing more than quadruple counting. Further, even if this argument had any cogency, Marc Wolman, the person on whom Mr. Taylor relied for information about environmental permits, testified that a prudent developer would not start construction without permits in hand. As a construction loan would not be drawn down prior to start of construction, there would be no delay and no additional interest incurred.

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[27] The appellant disputes the premise that these items would add any value. As an example, on cross-examination Mr. Taylor conceded that the only "load" that Mystic Station was in proximity to was Boston Edison's own load.

As to the approach that was used, the "errors and misconceptions" are not to be found with Mr. Kelly's analysis, but with the adjustments made to it by the Board. The major error, previously commented upon, is the use of the $1,069 per kilowatt figure rather than the $707 per kilowatt figure as a starting point. The errors and misconceptions adopted by the Board are better understood, however, if the approach used by Mr. Kelly is explained.

The capital cost of the replacement combined cycle plant was determined by reference to published costs to construct the new Edgar facility contained in the Edgar

Energy Park Project document. After adjustment for time, this figure was determined to be $707 per kilowatt of capacity as of January 1, 1989. Trending back using the Handy-Whitman index, a per kilowatt cost was determined for each of the assessment dates at issue. As an example, a cost of $568 per kilowatt was determined for January 1, 1983. The per kilowatt cost for each assessment date was multiplied by the net continuous capability, in kilowatts, of the existing plant to arrive at a replacement cost new.

The next step in the process was to measure the physical and functional characteristics of the existing plant, as compared with the replacement facility, and to determine replacement cost new, less depreciation. In Mr. Kelly's analysis that cost is the cost at which a potential purchaser is indifferent as to whether the existing plant is purchased or a new plant is constructed. To determine that cost, Mr. Kelly compares the cost of operating the existing facility, including fuel costs and day-to-day operation and maintenance costs ("O&M"), at a given output of capacity, with the annual cost of service of the replacement facility. For the new facility, costs include debt service on the construction loan. In Mr. Kelly's analysis, despite the greater efficiency of the combined cycle plant, its total costs exceed those of the existing plant. The reason is the capital costs, primarily debt service, associated with the construction of the new plant. The differential in costs between the existing plant and the replacement facility, when capitalized using a capital cost recovery factor, represents replacement cost new, less physical and functional depreciation. For illustrative purposes, the computations used by Mr. Kelly to determine his replacement cost new, less depreciation, at January 1, 1983, for fiscal year 1984, are set out in the margin.[28]

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[28] The analysis was made separately for Mystic 4, 5 and 6 and for Mystic 7, because of differences in efficiencies between the units. To determine the cost new for an alternate facility to Mystic 4, 5 and 6, the net continuous capability of 419,000 kilowatts was multiplied by $568 per kilowatt, resulting in a cost of $237,992,000. For fiscal years 1986 through 1990 the capacity was 405,000 kilowatts, in accordance with FERC filings. For Mystic 7, the capacity was 565,000 kilowatts. Multiplying that figure by $568 per kilowatt yields a cost of $320,920,000. Combining the two values yields a total replacement cost new of $558,912,000 for Mystic Station as of January 1, 1983. For the existing facility actual costs taken from FERC 1 filings were used. A linear regression analysis was performed for the years at issue, however, to smooth out the peaks and valleys and to provide figures on a stabilized basis. For Mystic 7, operation and maintenance costs were $8,315,000. Fuel costs were $111,954,696, for total production expenses of $120,269,696. For the replacement facility, total fixed charges were determined by applying a fixed charge percentage to the replacement cost new. The components of this factor include debt service, return on equity, taxes and insurance. It is also a function of the remaining service life of the facility. For fiscal year 1984, the factor used was 16.90%, which when applied to a cost new figure of $320,920,000 resulted in a figure of $54,240,993 for total fixed charges. I note that there is an approximately $5,000 discrepancy between this figure and the figure that is determined by the actual calculation. While unexplained, it is also insignificant. Most probably it is due to a rounding of the percentage used.

To determine fuel costs, the heat rate of the new facility was compared to that of the old. The heat rate is the number of BTU's required to generate a kilowatt hour of electricity and is a measure of the efficiency of the unit. As of January 1, 1983, the heat rate for Mystic 7 was 10,174 Btu/kwh, and for the new plant, 8,236 Btu/kwh. For a given output, the new facility would require approximately 19% less fuel. It was assumed that overall fuel costs remained constant. Although a replacement facility would require more expensive distillate fuel, an inference may be drawn that Mr. Kelly assumed that these higher fuel costs would be offset by the ability to run the replacement facility seven months of the year on natural gas, replacing the operating cycle of Mystic 4, 5 and 6 which run on oil for 12 months of the year.

To summarize, for each of the 7 years at issue Mr. Kelly determined the following values:[29]

	Jan. 1, 1983	Jan, 1, 1984	Jan. 1, 1985	Jan 1, 1986
Cost new/KW	568	590	622	626
Total cost new	558,912,000	580,560,000	603,340,000	607,220,000
Phys & func depr	276,920,521	295,186,823	318,595,127	311,217,569
RCNLD*	281,991,479	285,373,177	284,744,873	296,002,431

*Replacement Cost New Less Depreciation

	Jan. 1, 1987	Jan. 1, 1988	Jan. 1, 1989
Cost new/KW	639	673	707
Total cost new	619,830,000	652,810,000	685,790,000
Phys & func depr	273,466,333	307,049,446	314,710,738
RCNLD	346,363,667	345,760,554	371,079,262

The above figures represent replacement cost new less physical and functional depreciation for the production or generating plant. To determine a total replacement cost for Mystic Station, Mr. Kelly then added costs determined for land, transmission and distribution facilities meters and

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Operation and maintenance figures were also less, primarily because of the reduced number of personnel required to operate the replacement plant. The fuel and operation and maintenance costs were combined as one figure and denominated production costs. For fiscal year 1984, these were determined to be $99,120,000. The total cost of service for the replacement plant was the combination of the two figures, or $153,360,993 The difference between expenses for Mystic 7 and for the replacement facility was $33,091,297 ($153,360,993 - $120,269,696). When this amount is capitalized using a fixed charge percentage factor of 17.02%, an amount of $194,436,751 is determined as the replacement cost new, less physical and functional depreciation for Mystic 7. Again there is an insignificant arithmetic discrepancy. The difference in the percentage factors that are used is a consequence of the greater useful life of the replacement facility when compared with Mystic 7. A similar analysis was performed for Mystic 4, 5 and 6, resulting in a value of $87,554,728, for a total replacement cost new, less depreciation value, for Mystic Station of $281,991,479.

[29] Mr. Kelly labels his figure "reproduction cost," but for the generating facilities it is clearly replacement cost as the figure is arrived at by reference to a replacement cost new of the new facility.

communications equipment. Mr. Kelly determined these items would have been reproduced, and not replaced during the years at issue. To develop his depreciated costs he trended the original costs, and then applied a condition factor to arrive at reproduction cost, less physical and functional depreciation.

For each of the years at issue, the total values found by Mr. Kelly, taking into account physical and functional depreciation, but not economic obsolescence were:

@ 1/1/83	$312,706,000
@ 1/1/84	$319,817,000
@ 1/1/85	$319,751,000
@ 1/1/86	$326,471,000
@ 1/1/87	$378,937,000
@ 1/1/88	$378,750,000
@ 1/1/89	$408,012,000

Mr. Kelly also properly took into account economic obsolescence or depreciation.[30] His analysis was premised

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[30] In developing his depreciated replacement cost figure Mr. Taylor, the appellee's valuation expert, did not account for economic obsolescence. As stated in his appraisal report, "Economic obsolescence refers to the product itself. When dealing with electrical generating capacity, there is no such obsolescence, since a kilowatt of electricity generated from the power grid and conforming to NEPOOL specifications is a fungible product, regardless of whether it comes from the oldest system in the plant or from the newest plant."

In the context of depreciated replacement cost, economic obsolescence refers not to the product, but to the effect of external market conditions, on the value of property being appraised. As an example, the newest and most efficient buggy-whip plant could be built to produce the best buggy-whips, but if that were the highest and best use of the facility, it would still have little or no worth. Similarly, if the return on the sale of electricity is restricted through regulation, the generating plant is going to be worth less than it on the assumption that the DPU would not allow a sale at an amount greater than depreciated original cost, or rate base. Mr. Kelly assumed a fixed dollar return, based on rate base, regardless of purchase price and assumed a purchase price at the values set out above representing replacement/reproduction cost new less physical and functional depreciation. At the higher purchase price, the rate of return would obviously be less, or for FY 1990 he determined 6.57%, which he compared to the average overall rate of return for the electric industry as a whole, which was 10.3% He then determined economic obsolescence as that amount which when subtracted from the replacement cost new, less physical and functional depreciation, would yield a purchase price which would return 10.3% to the purchaser. His rationale is based on the same premise which explains why long-term bonds will sell at a premium or discount.

Not surprisingly the final values he found after taking into account economic depreciation are very close to the rate base values. As I think it is rate base which defines fair market value in this case, it is not necessary to further consider Mr. Kelly's approach other than to find it a further validation of that conclusion.

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otherwise would be. That is a factor of economic obsolescence just as in the buggy-whip illustrations. It has nothing to do with whether a kilowatt of electricity comes from the oldest or newest plant in the system.

The Board, adopting Mr. Taylor's figures, determined replacement cost new less physical and functional depreciation as set out in the following schedule.[31]

	Jan. 1, 1983	Jan. 1, 1984	Jan. 1, 1985	Jan. 1, 1986
Cost new/KW	859	892	940	947
Total cost new	845,256,000	877,728,000	911,800,000	918,590,000
Phys & func depr	(184,987,361)	108,895,193	259,047,965	225,495,718
RCNLD	1,030,243,361	768,832,807	652,752,035	693,094,282

	Jan. 1, 1987	Jan. 1, 1988	Jan. 1, 1989
Cost new/KW	965	1,017	1,069
Total cost	936,050,000	968,490,000	1,036,930,000
Phys & fund dept	(15,665,620)	222,397,518	55,606,139
RCNLD	951,715,620	746,092,482	981,323,861

What stands out in the values found by the Board, although not evident from its opinion, is that in addition to the inflated replacement cost new values, for two of the years, the replacement cost new, ***less*** depreciation, is ***more than*** the replacement cost new.[32] In fact in fiscal year 1984, the Board finds a fair market value for the existing plant, which equates to the replacement cost new less depreciation, which is 22% higher than the replacement cost for a brand new combined cycle facility. This finding is not only illogical, but directly contradictory to other findings made by the Board. In finding no. 48 the Board finds that "for the years at issue, Mystic Station would have probably been replaced by a combined-cycle power plant, rather than have been reproduced." Yet the methodology the majority adopts determines that in two of the years the value of the existing plant is greater than that of a brand new combined cycle plant. Under this rationale, at least in those years, the existing plant would not have been replaced. The appellee in its appraisal report states "[i]t is our opinion, that the current facility's design would not have been built during the years of assessment included in this appraisal. Instead we have utilized the estimated cost of constructing a gas/oil fueled combined-cycle electric generating plant." Not only are combined cycle facilities more efficient, but given the experiences of the 1970's and early 1980's with the tremendous increase in oil prices,[33] coupled with the increasing environmental concerns, it cannot be rationally concluded that an aged plant which relies primarily on No. 6 high sulfur oil would command a premium over a more efficient, brand new combined cycle facility with the ability to operate for 7 months of the year using natural gas which both the appellee and the appellant acknowledge is the preferred fuel to generate electricity. The reason physical and functional depreciation results in an increase in value in two years rather than a decrease is because in those years Mr. Taylor computes fuel prices for the new combined cycle facility that far exceed fuel costs for the Mystic Station. In fact, Mr. Taylor calculates that in four of the seven years at issue fuel costs for a new combined cycle plant would be higher than for Mystic Station because of the ability of Mystic Station to utilize cheaper No. 6 oil rather than distillate No. 2 oil. This despite the greater efficiency[34] of the combined cycle plant and the fact that the capacity of Mystic 4, 5 and 6, which is 100% oil fired, would be replaced by combined cycle facility which will utilize cheaper natural gas for 7 months of the year. The cost differential is so great, as determined by Mr. Kelly, as to also offset other aspects of physical and functional depreciation existing at Mystic Station, whose units 4, 5 and 6 were built in the late 50's and early 60's and whose unit 7 was brought into service in 1975.

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[31] These values are also for the generating facilities. To these values were added costs for transmission facilities and other plant as well as land to arrive at the total value utilized by the Board for replacement cost new less physical and functional depreciation.

[32] This finding is also contrary to an admission made by appellee's counsel in his opening, where he stated, "Obviously, a used plant is not worth what a new plant is worth, and we admit that; we concede that issue." Apparently, what is obvious to the appellee's counsel, whose client would benefit from such a finding, is not so obvious to the Board.

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[33] "If the soaring price of oil itself is not sufficient impetus for us to move away from reliance upon that fuel source, the very real possibility of interruption of those foreign-dominated supplies should be enough to mandate a policy of displacing oil-fired generation. Dependence upon a commodity which is so vulnerable to disruption places all domestic users in a precarious posture which is contrary to our state and national interests." ***Massachusetts Municipal Wholesale Electric Company,*** D.P.U. 20248 at 16 (1981), *quoting* ***Massachusetts Municipal Wholesale Electric Company,*** D.P.U. 18076 (1974).

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[34] A combined-cycle gas/oil fired plant would be 27%-30% more efficient than Mystic 4, 5 and 6 and 19%-20% more efficient than Mystic 7. These efficiencies are derived by comparing the heat rates of the existing plant with that of the replacement plant.

This determination--the finding of replacement cost, as depreciated, being ***greater than*** replacement cost new--is so counter-intuitive that it warrants examination of the assumptions on which it is based.[35] The magnitude of the assumptions made by Mr. Taylor, and adopted by the Board, can be illustrated by looking at his fuel calculation for Mystic 7 for FY 1984. The actual cost of fuel (obtained from FERC 1 filings) was $111,954,696, with a heat rate of 10,174. For the alternative combined cycle plant the heat rate was determined to be 8,236. Because of the greater efficiency of the alternate facility, then, with all other things being equal, the cost of fuel to generate the same amount of electricity at the combined cycle plant would be $90,628,944 (8,236/10,174 x $111,954,696). Mr. Taylor projected the cost to be $156,313,021. The $65,684,077 differential is attributable in his analysis solely to the difference in cost between No. 6 oil and No. 2 distillate oil.[36] But it must also be considered that oil will be utilized, at most, 5 months of the year. If the fuel cost of $90,628,944--which does not factor in an adjustment for the higher cost of distillate fuel--is equalized on a monthly basis, a cost of $6,591,196 per month is determined for gas or a total of $46,138,371 for seven months, and a monthly cost of $8,898,114 is determined for oil for a total of $44,490,570 for five months.[37] The $65,684,077 differential, above determined, must then be added to the $44,490,570 which yields a figure of $110,174,647 as the cost of fuel oil for the combined cycle plant capacity to replace Mystic 7. Accordingly, Mr. Taylor calculates the fuel oil costs for the replacement plant as being 248% higher than for Mystic 7.

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[35] While such a finding is counter intuitive, to then find, with a 2-1 probability, that FERC or the DPU would approve a sale at above replacement cost, which defines the ceiling for avoided cost is incomprehensible. I submit there is a "0" probability that a sale at such a price would be approved.

[36] Both Mystic 7 and the replacement combined cycle plant would operate with an interruptible supply of natural gas for 7 months of the year. Thus, any differential in total fuel costs would be attributable only to oil prices.

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[37] There is nothing in the record which breaks out the cost of gas versus oil other than that gas is the preferred fuel and generally cheaper. It was possible, however, to isolate the cost of gas and oil by comparing the fuel costs for Mystic 4, 5 and 6, which burn only oil with those of Mystic 7 which burns oil and gas. As Mystic 7 is more efficient, the cost of fuel for Mystic 4, 5 and 6 was equalized using the heat rate. Using fiscal 1984 figures, the heat rate for Mystic 7 was 10,174 and for Mystic 4, 5 & 6, 11,196, for a ratio of .91. When this ratio is applied to the fuel cost for Mystic 4, 5 and 6 of $57,218,278, an equalized cost of $52,068,633 is determined for Mystic 4, 5 and 6. This would have been the fuel cost if Mystic 4, 5 and 6 were as efficient as Mystic 7. For Mystic 4, 5 and 6, net generation of 1,100,000 MW is assumed. Fuel cost per MW is then $47.34 ($52,068,633 ÷ 1,100,000). For Mystic 7 net generation of 2,800,000 MW is assumed. Cost per MW is then $39.98 ($111,954,696 ÷ 2,800,000). Having equalized for efficiency, the cost differential must be attributable to the lower cost of gas which is used at Mystic 7 for 7 months of the year. The cost of using oil for 12 months is 18% more than the cost of using gas for 7 months and oil for 5 months ([47.34 - 39.98 = 7.36] [7.36 / 39.98 = 18%]). The monthly cost for fuel can then be determined by the following equation where x is the cost of oil and y is the cost of gas on a monthly basis ([$12x = 1.18(5x + 7y)$] [$12x = 5.90x + 8.26y$] [$6.10x = 8.26y$, $x = 1.35y$). The cost of fuel can then be determined as follows $7y + 5x = 90{,}628{,}944$, where $x = 1.35y$, therefore, $7y + 6.75y = 90{,}628{,}944$. The monthly cost of gas is then determined to be $6,591,195, with a total cost for 7 months of $46,138,371. The monthly cost of oil is determined to be $8,898,113 with a total cost of $44,490,573.

If no. 6 fuel oil cost $1.00 per gallon, distillate would cost $2.48.

The only testimony concerning the price differential between No 6. and No. 2 oil was that of Dr. Charles J. Cicchetti, expert witness for the appellant.[38] On cross-examination. Mr. Cicchetti was posed a question in which appellee's counsel assumed the answer. The question posed to him was as follows:

> Q. You talked about the fuel advantage and differentials of the distillate fuel, the diesel fuel, yet fuel that's run into a combined cycle, when it runs oil is approximately 40 percent more expensive than number six residual one percent sulfur oil for the most part. Isn't that about the right comparison between them?
>
> A. They're different. I wouldn't say that there's not -- It goes up and down. It depends upon markets, and it depends upon how cold the winter is and those kinds of things, but there is a differential. It could be as much as that. I don't think it's quite that high.

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[38] Mr. Taylor's original report exchanged with the appellant, pursuant to an order of the Board, some thirty days prior to the hearing in this matter contained no mention of an adjustment for the higher price of distillate fuel. Mr. Taylor's adjustments were offered on his first day as a witness. It was his position that it was Dr. Cicchetti's testimony on the issue that caused him to revise his opinion. He admitted, however, that he had known throughout that combined cycle plants burn distillate fuel, and had in fact been involved from the beginning with Stoneybrook, a combined cycle plant operating in Ludlow, Mass. I think this raises two issues, first, Mr. Taylor's credibility, and second, the depth of his analysis, as Dr. Cicchetti was the witness appearing immediately prior to him.

Mr. Cicchetti further testified that despite the higher fuel cost, the combined cycle facility was still more cost efficient.

That Mr. Taylor's fuel cost is clearly inflated is illustrated not only by the exchange between Mr. Cicchetti and counsel for the appellee, but also through an exchange between appellant's counsel and Mr. Taylor.

Mr. Taylor testified that he factored the cost for distillate fuel into his analysis by using the fuel costs for the Stoneybrook combined cycle plant. In determining his cost of $156,313,021 as the fuel cost for a combined-cycle facility, he used a cost of $6.78 per million Btu's. Mr. Taylor, however, on cross-examination, conceded that the actual combined cost for gas and oil on a per Btu basis, as reflected in filings by Stoneybrook with FERC was $5.05 per million Btu's. By his own admission, then, Mr. Taylor's fuel costs were grossly inflated.

Using the $5.05 figure, a fuel cost of $116,427,840 is determined (5.05/6.78 X $156,313,021). The differential, based on the higher price for distillate fuel, is $25,798,896 ($116,427,840 - $90,628,944). The total cost for oil would then be $70,289,466 ($44,490,570 + $25,798,896), or 58% greater for the combined cycle plant than for Mystic 7. While this is still greater than the 40% adopted by the appellee's attorney and Mr. Cicchetti (although he felt it on the high side), it is certainly more consistent with that figure than the 248% increase projected by Mr. Taylor.

Using this particular model, the more expensive the operation of the combined cycle plant, the greater the value of Mystic Station. By adjusting the fuel costs through use of the actual Btu rate for Stoneybrook, fuel costs are reduced $15,669,178 for Mystic 4, 5 and 6 and $39,885,181 for Mystic 7. The overvaluation attributable to these inflated fuels costs can be determined by applying the applicable capitalization rate to these differentials. In the case of Mystic 4,5 and 6 the rate was 17.92% and thus the overvaluation was $87,439,610. Applying the rate used for Mystic 7, 17.02%, to the cost reduction yields an overvaluation of $234,343,014. The total overvaluation was $321,782,624. As the same methodology was used by Mr. Taylor for all years at issue it can be assumed that similar errors were made and that all values were inflated proportionately. I'm aware that market value is a matter of judgment and that deference should be given the Board's decision assuming its determination falls within a range of values that could be considered reasonable, but the magnitude of these discrepancies causes me to recall a statement of former Secretary of Defense Casper Weinberger, in commenting on his Department's budget, and I paraphrase, "A billion here and a billion there, and pretty soon we're talking real money."

There is a further glaring error with Mr. Taylor's methodology, however, which was overlooked by the Board. I previously posited that Mr. Taylor's principal opinion of value was rejected by the Board because his appraisal report was replete with double, and as illustrated, quadruple countings. With this analysis, he makes the same mistake. In his determination of replacement cost new, he includes the cost to construct the pipeline proposed for the Edgar Project to provide a firm fixed supply of natural gas to meet its entire fuel requirements for the year. Not only would such a dedicated pipeline allow for exclusive use of natural gas, but the gas would be available at least cost, see ***supra*** *n. 10.*

The fuel costs developed by Mr. Taylor are by reference to the Stoneybrook plant, which uses, as does Mystic Station, an interruptible supply of natural gas. His calculation assumed natural gas for 7 months and oil for 5 months. Thus, in his determination of value, he includes the cost (the pipeline) but not the benefit (the ability to use the cheapest natural gas for 12 months of the year). He double counts. With the pipeline, not only would there be no need for higher priced distillate fuel oil, there would be no need for any oil. I previously set forth in some detail why it was inappropriate to include any costs for a pipeline. But even if it could be done, there is no way it could be done in this case because there is no evidence in the record which would allow the Board to determine the fuel costs for natural gas delivered through an arrangement such as that contemplated for the Edgar Plant.

Mr. Taylor and the Board also chose to assume capital additions of between eight and ten million dollars per year would be made to the property. As with the pipeline, the Board chose to value property not existing on the valuation date. Again, this is contrary to law and logic. This also served to inflate the value of Mystic Station, but not through the addition itself. Standing alone, since the addition was considered a cost, it would have served to reduce the value of the property. However, it was assumed that an expenditure of 8-10 million dollars per year would increase the life expectancy of Mystic 4, 5 and 6 to thirty years. A greater life expectancy results in a decrease in the capitalization rate. The net result is an increase in value for the property. In addition to valuing property which is not there, the methodology is flawed. For fiscal year 1984, the appellant used a life expectancy of 12 years, based on the actual life as projected by Boston Edison. Through fiscal year 1990 the life expectancy decreased each year by one year. The appellee in fiscal year 1984 projected a life expectancy of 30 years, based on an additional investment of $8,090,300 in that year, and further that expenditure of similar amounts each year would maintain the life expectancy at 30 years. It defies logic to assume that by an investment of $8,000,000 the life of Mystic 4, 5 and 6, valued by the appellee at January 1, 1983, for $285,883,111, could be extended 18 years. It further was not consistent with the testimony of Edward O'Brien, the individual in charge of operations at Mystic Station, that Edison had expended, after the last assessment date at issue, 20 million dollars on a major overhaul of unit 6 and that similar amounts were contemplated to be spent on units 4 and 5. Taking into account these expenditures, as well as the costs to finance them, it is apparent that Mr. Taylor's projected costs are far below what would be necessary to extend the life of these units to 30 years.

Concerning the operation and maintenance figure, Mr. Taylor used a figure for the replacement plant approximately two million dollars greater than that used by Mr. Kelly. This resulted from the use of different sources for the figures. In any event, the effect on final value for this amount is insignificant, approximately 1%.

D. The Board's Determination of Value Has No Relationship to the Real World.

The $1,069 figure adopted by the Board has no relationship to what was happening in the real world. There is no evidence in the record of any generating plant, proposed or operating, that comes close, in terms of per kilowatt cost, to the $1,069 figure adopted by the Board. The Stoneybrook combined cycle plant constructed by MMWEC, and completed in 1981, was the only combined cycle plant in evidence that was actually in operation and whose costs were a matter of record. Mr. Taylor had extensive involvement with the Stoneybrook plant through his involvement with MMWEC. In his testimony, Mr. Taylor acknowledged that Stoneybrook had a construction cost of $389.76 per kilowatt, less than one-half the estimated January 1, 1983 per kilowatt cost adopted by the Board. Further, there was in evidence before the Board a finding of the Vermont Superior Court, in the case of ***New England Power Company v. Town of Hartford*** that the per kilowatt cost to construct Stoneybrook, trended to April, 1984, was $360.00.

In addition to Stoneybrook, Mr. Taylor was also familiar with the Wyman Hydroelectric Project owned by Central Maine Power. His familiarity was derived through a fair market value appraisal he did on behalf of the town of Moscow, for submission to the State Property Tax Review Board. The Wyman plant is in the same Handy-Whitman region as the Edison Plant in Everett and is a member of NEPOOL. As with Mystic Station, replacement cost was the primary method of determining value and a replacement cost was developed for an oil/gas fired combined cycle plant. The valuation date was as of April 1, 1989. Pursuant to his appraisal, he determined a capital cost of $745 per kilowatt. This also included $37 per kilowatt with respect to interconnect costs for a switch yard. As these are related to transmission, rather than generating costs, they would have to be removed. The resulting figure of $708 per kilowatt is one kilowatt removed from the of $707 per kilowatt computed by the appellant's expert, Mr. Kelly.

In fairness to Mr. Taylor, it should be pointed out that he himself did not feel any of the figures he arrived at, by making a range of assumptions using Mr. Kelly's approach, stood for fair market value.

The last question put to him by appellant's counsel was:

> Q. Now your exhibit G for identification has a number - - I'm sorry.
>
> Q. Your Exhibit G for identification [subsequently marked Exhibit XX containing the analysis adopted by the Board in reaching its decision] has various values per KW as well as various numbers listed in a column that has the labels "Values," sir?
>
> A. That's right.
>
> Q. Please tell us which of these numbers, in your opinion, represents the fair market value of the Mystic Station.
>
> A. None of them. There is not one number on that page that in my opinion is the fair market value of the number. This is a mathematical exercise.

E. Summary

To summarize, even if the Board was correct on the issues of regulation and non-regulated purchasers, which it is not, their determination of value is wrong for the following reasons:

1. As a starting point for a determination of value the Board utilizes a per kilowatt figure of $1,069, which is

even higher than the value the appellee's counsel urged the Board to use.

2. There is nothing in the record which will enable the Board to break that figure down into its component parts. It was introduced by the appellee for purposes of impeachment. Consequently, there is nothing in the record which allows the Board to determine whether the figure they adopted includes items not subject to ad valorum taxation. The figure adopted by the appellant, $707 per kilowatt, is supported by reference to 25 separate line items.

3. The $1,069 figure used by the majority includes $287 per kilowatt for a pipeline constructed for Edgar Energy Park that appears to extend all the way to Texas. There is no theory that can justify inclusion of this cost.

4. The $1,069 figure also includes a cost of $50.00 per kilowatt for working capital, an intangible asset not subject to local taxation.

5. In making adjustment to Mr. Kelly's methodology, the Board grossly inflates fuel costs with the result that in two of the 7 years at issue, the value of the existing plant is determined to be higher than that of a brand new combined cycle facility, a finding that even appellee's counsel concedes is obviously incorrect. This is also contrary to the premise, adopted by both sides, that the existing plant would not be reproduced during the period at issue.

6. While including the pipeline cost in its replacement cost new calculation, the Board calculates fuel costs as if the pipeline did not exist. The Board includes the cost, but does not offset that cost with the benefits that would accrue if natural gas were to be used as the exclusive fuel source.

7. The Board also finds, with a 2:1 probability, that the FERC and DPU would approve the sale at a figure in excess of replacement cost, even though this is contrary to their finding that equates avoided cost with replacement cost.

8. The Board's determination of values assumes capital additions to the existing plant, contrary to the requirement that property must be valued "as it exists" on the applicable assessment date. To compound the error, the Board assumes unrealistic life expectancy for Mystic 4, 5 and 6.

9. The Board's findings have no relation to the real world. The Board completely ignores the costs to construct Stoneybrook, the only operational combined cycle plant referenced in the record.

10. Mr. Taylor's Wyman appraisal impeaches his own testimony in the present case, and supports the opinion of value proffered by the appellant.

11. It was clear to Mr. Taylor, whose adjustments the Board relied on, that these figures had nothing to do with fair market value. It was just a mathematical exercise to

determine what the results would be if different assumptions were made concerning Mr. Kelly's approach. Even though Mr. Taylor disavowed his own adjustments and resulting values as reflecting fair market value, the Board accepted them as such.

I would have found replacement cost new values, less physical and functional depreciation, consistent with values determined by Mr. Kelly.

II. The Issue of Regulation.

A. The Burden of Proof

"Of particular significance to this case is the apparently long-standing position of the Department of Public Utilities that, if a regulated utility sells an asset to another regulated public utility, the basis of that asset in the hands of the transferee remains the same as that of the transferor for rate-making purposes.[39] ***Boston Edison Co. v. Board of Assessors of Watertown***, 387 Mass. 298, 301 (1982). There must be "substantial evidence on this record or (b) a reasonable basis in logic for ignoring almost entirely the fact that a potential buyer, if it were a public utility, would be considerably influenced by the return to which it would be limited on whatever investment is made." ***Id.*** at 304. The Court enumerated certain circumstances under which a buyer might be induced to pay more than the rate base value of the property:

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[39] The short hand nomenclature for this principle is the carry-over rate base rule.

a. The return being actually earned by the utility may exceed or be expected to exceed the rate of return approved in the allowed rate, thus tending to encourage a buyer to pay more than the rate base.

b. The return allowed on the investment may exceed the return available in the market for an investment having the same or greater risk.

c. There is the possibility that the applicable rules of law or governing agency decisions might be changed so as to make an investment in the company more attractive.

d. The potential for growth in the utility's business may warrant a buyer paying more than the utility's net book cost of particular property.

e. There is the possibility of finding a buyer that is not a public utility.

As to the burden of proof, "the taxpayer, which is a regulated utility,[40] should not be required to establish the lack of special circumstances which were enumerated in ***Watertown***, until there is some evidence offered by the assessors to show that, because of such circumstance, the relevance of rate base value is put in question." ***Montaup Electric Company v. Board of Assessors of Whitman*** 390 Mass. 847, 855 (1984). As to circumstances a, b, and d, no probative evidence was offered by the assessors and, accordingly, there was no showing that, by reason of those circumstances, a buyer would have been induced to pay more than net book cost. As to circumstance c, the prospect of change in the regulatory environment, the appellee has not met its burden of production of evidence.

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[40] The Massachusetts Department of Public Utilities regulates the retail sale of electricity generated and sold in Massachusetts. Mass. G.L. c. 164, § 76 *et seq.* The Federal Energy Regulatory Commission regulates wholesale sales of electricity, including sales between utilities, and sales and transmissions of electricity across state lines. 16 U.S.C.A. § 824 *et seq.*

Robert G. Taylor, appellee's appraisal witness was qualified as an expert, and allowed over the repeated objections of appellant's counsel to give his opinions on the regulation of investor-owned utilities, the regulation of IPP's (independent power producers) and on the regulation of QF's (qualifying facilities). On voir dire, the following exchange took place between Mr. Taylor and appellant's counsel:

> Q. I take it you do not offer yourself to this Board as an expert on the regulation of investor-owned utilities?
> A. That's correct.
>
> Q. And you do not offer yourself to this Board as an expert with respect to the regulation of IPP's?
> A. No.
>
> Q. Am I correct?
> A. That's correct.

Q. And you do not offer yourself to this Board as an expert with respect to the regulation of QF's or qualifying facilities?

A. No.

Q. Am I correct?

A. You are correct.

....

Q. Mr. Taylor, I just heard Mr. McLaughlin argue to the Board that you had the right to rely on legal experts in arriving at your opinion. Did you rely on legal experts in arriving at your opinion?

A. I relied on a lot of different people who I had confidence in various areas of expertise, including legal expertise.

....

Q. So you did rely on legal experts in arriving at your opinion.

A. Yes, I did.

....

Q. Just let me be very clear about this, Mr. Taylor. I don't wish to inquire into any conversations you may have had with counsel concerning preparation for your testimony here, but you have told us, in arriving at your opinion of value, you relied on legal experts. Is that my brother McLaughlin and his colleagues?

A. Yes.

Q. Anyone else?

A. Well, to answer that question fully, I relied on my experience in other cases such as this where I provided testimony and which has helped me to form my opinion on the way of evaluating utility property.

....

Q. Do you wish to give the Board the name of any other legal expert on whom you relied in arriving at the opinion you would like to testify to?

A. I don't believe that there's any others that would be -- Well, there were --

Q. It's a yes or no question Mr. Taylor.

A. I have no other names to offer.

Based on this exchange, I believe the Board should not have given any weight to the testimony of Mr. Taylor concerning regulation of investor-owned utilities, regulation of IPP's or regulation of QF's. Mr. Taylor testified that he was not an expert in these areas, that he had never been involved in any regulatory matter involving an investor-owned utility, and that the only experts he relied upon in developing his opinion, as they relate to these areas, were the attorneys for the appellee. I know of no rule of evidence which allows the opinions of one party's attorneys to be offered through its own expert witness and accepted as evidence.

I have a further reservation in that failure to disclose the names of those individuals providing significant professional assistance is a clear violation of professional appraisal standards. I do note, however, that there is no certification in Mr. Taylor's report that it was prepared in conformity with the Uniform Standards of Appraisal Practice.[41] Nor could there have been, because of the overriding requirement that an appraisal must be performed with "impartiality, objectivity, and independence."[42] To the extent that Mr. Taylor developed his opinion of value based on the opinions of his client's attorneys, it does not comport with the requirements of "impartiality, objectivity, and independence."

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[41] Uniform Standards of Professional Appraisal Practice, Standard Rule 2-3 requires, *inter alia*, a certification that "my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with Uniform Standards of Professional Appraisal Practice." (USPAP). There is also required a certification that "no one provided significant professional assistance to the person signing this report. (If there are exceptions, the name of each individual providing significant professional assistance must be stated.)" Mr. Taylor's report contains the name of no other individuals who provided professional assistance.

As an evidentiary matter, Mr. Taylor could have given an opinion of value in response to a hypothetical question, which assumed certain facts concerning the regulatory climate. On this basis, I would have no problem with Mr. Taylor giving his opinion of value. I think it is wrong, however, for Mr. Taylor to proffer as his own opinions, and for the Board to accept as evidence, opinions concerning the regulation of investor-owned utilities, IPP's or QF's, areas in which he acknowledges he has no expertise, and which are nothing more than a regurgitation of the opinions of his client's own counsel.

The only witness offered by the appellee whose testimony concerning any aspect of utility regulation which can be given any weight was Dr. Michael Yokell. Concerning

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[42] The Preamble to USPAP states:

> "It is essential that a professional appraiser arrive at and communicate his or her analyses, opinions, and advice in a manner that will be meaningful to the client and will not be misleading in the marketplace. These Uniform Standards of Professional Appraisal Practice reflect the current standards of the appraisal profession.
>
> ....
>
> ...An appraiser must perform ... assignments with impartiality, objectivity, and independence and without accommodation of personal interests.

FERC, Dr. Yokell's testimony related only to IPP's and FERC's involvement in the review of wholesale power contracts signed between IPP's and electric utilities. And it was not during all periods at issue, but in the late 1980's, he testified, that FERC issued a number of notices of proposed rule-making which utilized the term IPP. Significantly, Dr. Yokell also testified that prior to May 12, 1988, the date of D.P.U. 86-36-C, Massachusetts was an original cost state with respect to ratemaking.[43] His testimony was as follows:

> Q. Let's look at 86-36-C. Do you have a copy with you?
> A. Right in front of me.
>
> Q. Now, prior to 86-36, would you agree with me in describing Massachusetts as an original cost state with respect to rate-making?
> A. Yes, by and large.

Of the years at issue in these appeals, there is only one in which the applicable assessment date is subsequent to, May 12, 1988, the date of the promulgation of D.P.U. 86-36-C and proposed regulations.

Based on the foregoing, I do not believe the appellee has met its burden of production with respect to the issue of regulatory change. Mr. Taylor's testimony concerning regulation is entitled to no weight. Dr. Yokell gave no testimony concerning the carry-over rate base principle as it relates to FERC for any of the years in issue. As relates to the Mass. Department of Public Utilities, he testified that Massachusetts adhered to the carry-over rate base principle prior to the promulgation of D.P.U. 86-36-C. Of the seven years at issue, six predated the issuance of D.P.U. 86-36-C. Further, although Dr. Yokell gave detailed testimony concerning the evolution of the DPU's policy as it relates to rate-making, for the purposes of his opinion he assumed that Boston Edison was not currently serving the market of the proposed purchaser. Even if it were to be assumed that his analysis was correct, little weight should be given it as it assumes facts at variance with those existing on the applicable assessment dates.

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[43] In an original cost jurisdiction a regulated utility earns a return at a rate set by the regulatory commission on its rate base, which at any point in time is the sum of all original cost investments as depreciated and then as modified by subsequent capital additions.

It is clear that the appellee did not meet its burden of going forward with evidence to demonstrate why a potential buyer would be induced to pay more than rate base.[44] Accordingly, under the principles elaborated in ***Montaup Electric Co., supra***, a finding was required for the appellant on the issue of whether FERC or the DPU had abandoned their commitment to the carry-over rate base rule for assets already existing in rate base.

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[44] The decision of the Supreme Judicial Court in ***Boston Edison Co. v. Board of Assessors of Boston,*** 402 Mass. 1 (1988) cannot be read as an abrogation of the rule of burden of proof, as enunciated in ***Montaup***. In its decision the Court stated, "We particularly reject, however, the assessors' argument that, once there is evidence of the possibility of a sale above net book value, the 'presumption' that net book value has relevance disappears. The likely influence on the market of the department's rate making rules cannot disappear. The department's views are of continuing importance."

B. The DPU Remains Committed to the Carry-Over Rate Base Rule.

Even if it were to be assumed that the appellee met its burden of production, Boston Edison has met its burden of persuasion to establish that the DPU and FERC remain committed to the carry-over rate base rule and therefore no Investor Owned Utility would have paid more for the Edison plant than its rate base.[45]

The focus will first be on the regulatory climate as it existed in Massachusetts during the 1980's. The Board extrapolates from various DPU decisions promulgated in the mid to late 1980's, primarily the 86-36 series, and concludes that for the years at issue in this appeal, the carry-over rate base rule for existing utilities has been abandoned.[46] In their extensive review, the majority curiously omits any mention of D.P.U. 93-167-A. At page 6, the Department states:

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[45] There are really two issues, two sides of the same coin, however, that are being dealt with. The first is whether the DPU or FERC would ever approve a sale at more than rate base. The second is whether the DPU or FERC would ever allow rates to be set by reference to a value other than rate base. Even if it were to be assumed that a sale price would be allowed at a price greater than rate base, if the return was limited to rate base, no rational purchaser would pay higher than that value, absent special circumstances enumerated in ***Montaup Electric Co., supra.*** In any event, the unrebutted testimony of appellant's witnesses was that the sale price would also have to be approved by the DPU and FERC.

[35] Although the appellee at one point denies even the existence of the carry-over rate base rule, it is a rule which has been consistently applied. See ***In re Springfield Gas Light Co.,*** D.P.U. 17139 (Nov. 17, 1971) at 3. ("Massachusetts has, from the early beginning of regulation, been an 'original cost' state and does not recognize acquisition cost as

> Merger proposals that envision earning an acquisition premium have heretofore been regarded by the Department as ***per se inadmissible.*** In and of themselves, acquisition premiums do represent a cost or disadvantage to the ratepaying public.

Nothing could be more unambiguous concerning the policy of the DPU, as it existed through the date of issuance of the decision, which was September 28, 1994.[47] The Department went on to enumerate various decisions which had affirmed this policy:

> Despite this general practice, some mergers or consolidations did involve an acquisition price that differed from the net book value of the assets of the acquired utility, thus producing an acquisition premium. The Department has heretofore refused to recognize these premiums for ratemaking purposes. ***See Boston Gas Company,*** D.P.U. 88-67, Phase I, at 26-27 (1988); ***Springfield Gas Light Company,*** D.P.U. 17139, at 3 (1971); ***Boston Edison Company v. Board of Assessors of Boston,*** 402 Mass. 1, 15 (1988).

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properly capitalizable cost or a rate element. To permit the acquisition, without conditions [which prohibit recovery of the premium], might ultimately defeat basic principles of regulation established by the Department and circumvent the statutes which are designed to protect investors and consumers alike."); See also Bonbright, Danielson and Kamerschen, ***Principles of Public Utility Rates,*** 229-30 (2d. ED. 1988) (Of the fifty states and the District of Columbia, Massachusetts is one of 42 jurisdictions which adhere to the original cost standard in ratemaking, as does FERC.)

[47] The hearing in this matter was re-opened and both sides had an opportunity to comment on D.P.U. 93-167-A. The board then accepted the decision into evidence.

> From the inception of utility regulation in Massachusetts, the Department and its predecessors have determined utility rates based on capitalization and investment, and not on other measures of cost. ***Report of the Special Commission on Control and Conduct of Public Utilities*** (House Document No. 1200), at 230-231 (March 3, 1930).[48]

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[48] In its Rulings of Law issued with their decision in April, the Board chose to ignore D.P.U. 93-167-A. The following rulings of law with respect to the tax years at issue were given on behalf of the appellee:

2. As a matter of law it cannot be said that the Department of Public Utilities ("DPU") has a carry-over rate base "rule" which is a rule of strict application and is without exception. (citations omitted).

5. The DPU has expressly revised the method by which it permits utilities to charge customers to recover sums spent to acquire generating capacity. It has abandoned the use of embedded cost and so-called "cost of service" ratemaking for the recovery of those sums. In its place, the DPU now permits a utility to recover a pre-approved amount to build or purchase the least cost alternative. DPU 86-36 A-G.

7. In a case where the purchase of an existing power plant was the least cost alternative compared to the cost of new construction, or was reasonably based upon other considerations, the DPU might view, or might have to view, any carry-over rate base policy differently.

8. It is highly unlikely that the DPU would, or the Supreme Judicial Court would, allow the DPU to apply a carry-over rate base policy to the prudent purchase of Mystic at a price above net book cost.

I believe the Board incorrectly gave all 13 requests for Rulings of Law with respect to utility regulation.

The following requests of the appellant were refused:

111. The evidence is sufficient to warrant a finding that the DPU would have applied the carryover rate base limitation to a sale of Mystic during the tax years.

112. The evidence is insufficient to warrant a finding that the DPU would not have applied the carryover rate base limitation to a sale of Mystic during the tax years.

113. The evidence is sufficient to warrant a finding that, while the Massachusetts Department of Public Utilities has changed the manner in which costs are recovered for investments made by electric utilities in new generating assets, cost-of-service regulation remains in place for plants, like Mystic, that are already placed in rate base.

114. The evidence is insufficient to warrant a finding that the change in the manner in which costs are recovered for investments by electric utilities in new generating assets which has been instituted by the Massachusetts Department of Public Utilities removes cost-of-service regulation for plants, like Mystic, that are already in rate base.

D.P.U. 93-167-A is surely, from the appellee's perspective, the "smoking gun" in this case. It is clearly dispositive on the issue of whether the DPU would have allowed a purchaser of Mystic Station, which was a regulated utility, to include an acquisition premium in rate base. It would not have. For the Board to find to the contrary flies in the face of this decision by the DPU. The fact that it was issued after the last assessment date, does not detract from its importance. As previously commented upon, in the ***Boston*** case the Board relied on a decision of the Supreme Judicial Court issued two years after the last assessment date to conjecture that the DPU would have allowed an acquisition premium to be included in rate base. *See* ***supra,*** *n. 1.* I say conjecture because in that case there was not a clear pronouncement on the issue by the DPU. Instead the Board inferred that the DPU would take a certain action, because of an action it took in another, unrelated case. I believe the current decision of the Board is grounded in the ***Boston*** case. Yet I find it contradictory, in that the Board ignores contrary evidence of a similar nature (D.P.U. 93-167-A), but much more dispositive, than that which formed the underpinnings of the very decision on which it relies.

There are also numerous other rulings that I believe were incorrect, but the findings of the majority in the above cited Request for Rulings are directly contradicted by D.P.U. 93-167-A.

It is true that a prospective purchaser of Mystic Station would not have had the benefit of D.P.U. 93-167-A. D.P.U. 86-36-C, however, enunciated a pre-approval policy from the date of the order, May 12, 1988, forward. Although the order by its terms applies only to new generation facilities, certainly a purchaser would have sought pre-approval and if the DPU chose to act, it would have been denied. At least for that year there would be no question as to whether an acquisition premium would have been allowed.

For the earlier years a prospective purchaser would have sought to discern the likely response by the Department to a purchase above rate base by reference to prior or contemporaneous decisions or pronouncements of the D.P.U. Although the Board ignores or misinterprets definitive pronouncements on the issue, a prospective purchaser, with hundreds of millions of dollars at stake, would not.[49]

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[49] It is implicit in the majority's decision that a prospective regulated purchaser would not have paid the full value as determined by the Board. A purchaser would have made its own calculation of probability as to whether a sale at a price above rate base would have been approved. It would then have paid a price no greater than dictated by that probability assessment. If a 2:1 probability is assumed, in the first year a prospective purchaser would pay $782,947,941, which is $564,629,321 more than rate base. I don't think any rational prospective purchaser would have risked one-half billion dollars on such a probability assessment of what the DPU or FERC might or might not do. I think a reasoned inference can be drawn that a purchaser would proceed only if it was certain that a sale would be approved at a given price. Such a comfort level cannot be found in the decisions and rulings cited by the Board, none of which are directly on point. Rather the decisions and rulings which are directly on point are to the contrary.

In ***In re Springfield Gas Light Co., See supra, n. 35,*** the D.P.U. stated, "Massachusetts has, from the early beginning of regulation, been an 'original cost' state and does not recognize acquisition cost as properly capitalizable cost or a rate element." In ***Joint application of Boston Edison Co., New England Power Co., Montaup Electric Co., Commonwealth Electric Co. and Fitchburg Gas and Electric Light Co.,*** D.P.U. 84-47 (July 8, 1985) at 5, the D.P.U. stated "We remind the Petitioners that the Department has an established policy of allowing only the original book value of used and useful property in rate base. See Department of Public Utilities Uniform System of Accounts, 220 C.M.R. 51.00 [remaining citations omitted]." This policy was reiterated in ***Re Boston Gas Co.,*** D.P.U. 88-67 (Sept. 30 1988):

> When Boston Gas purchased six gas utilities owned by New England Electric System ("NEES") in 1971 and 1973, the Company paid approximately $6,450,000 more than the original book value of the plant.
>
> ....
>
> For ratemaking purposes, the Department allows only original book value of used and useful property in rate base. ***Boston Edison Co.,*** D.P.U. 84-47 (1985) at 5. The Company's adjustment reconciles its booked plant investment balance with the Department's ratemaking treatment of intangible plant. The intangible plant and the depreciation associated with it will remain on the books of the Company and continue to be reported to financial institutions. ***Thus the sole purpose of the adjustment is to prevent the Company from earning***

> ***a return on the plant acquisition premium."*** (Emphasis added).

It is instructive to note that the ***Springfield*** and ***Boston Gas*** decisions were both referenced in D.P.U. 93-167-A as decisions evidencing the D.P.U.'s adherence to the carry-over rate base principle during the periods at issue. The Board found that the ***Springfield*** decision was of little value in attempting to discern the likely response of the DPU. Obviously the DPU disagrees.

Under the used and useful standard established in D.P.U. 84-25 (July 31, 1984), a prospective purchaser would have been put on notice that the D.P.U. would not have approved an acquisition premium. The Department stated at page 41:

> The useful element means that the used and useful standard is not an all-or-nothing determination. That is, there are different degrees to which a plant may be useful, and the standard allows a continuum of investment recovery and return. For example, if a utility plant, while used, was of larger capacity than required to meet its load and reserve requirements and provided no net energy savings, the portion of plant which would be recoverable and allowed to earn a return would be that portion which the Department found was useful, i.e., provided benefits to the utility's customers.

Where the power generated by Mystic Station is already available at rate base to all customers of NEPOOL, there could be no benefit to the purchasing utility's customers and therefore the "useful" prong of the standard could not be met. Further, as will be subsequently shown, during the years at issue there was excess capacity in the marketplace, which would further diminish the possibility of satisfying the "useful" standard.

The introduction to D.P.U. 86-36-A, issued on April 7, 1987, states that "On February 3, 1986, the Department of Public Utilities ("Department") voted to conduct a generic rulemaking investigation concerning the appropriate pricing and ratemaking treatment to be afforded ***new*** electric generating investment made by investor owned electric utilities. The Department's investigation was docketed as D.P.U. 86-36." By its own terms the 86-36 series deals with ***new***, rather than existing utilities. And it is not only the terminology used, but also the substance of the documents themselves that makes clear that they are inapplicable to existing utility assets in rate base. Even the appellee's own witness, Dr. Yokell, testified that Massachusetts was an original cost jurisdiction up until the time of promulgation of 86-36-C.

The Board also proffers a statement by former D.P.U. Commissioner Susan F. Tierney, who served between 1988 and 1991, "that any such questions [dealing with the carry over rate base rule] 'would have been considered on a case by case basis.'" What it neglects to say is that the statement was solicited by the assessors in response to an October, 1990 speech by Commissioner Tierney concerning the DPU's pre-approval regulatory scheme in which she stated:

> On October 28, 1988, we [the DPU] decided to throw out the traditional regulatory system of ex-post facto prudency reviews and cost-of-service regulation for new utility investment in generating plant, and replace that old system with a new "pre-approval" cost-recovery framework. ***Cost-of-service regulation remains in place for plants already in rate base.*** (emphasis added).

With these pronouncements as background, no prospective purchaser would have expected to recover a premium over rate base. The majority's specific findings, numbered 5 and 6 fly in the face of this evidence. In light of this evidence no purchaser would have gambled as much as half a billion dollars on a purchase above rate base. The Massachusetts State Lottery would provide better odds.

C. FERC Remains Committed to the Carry-over Rate Base Rule.

The Federal Energy Regulatory Commission (FERC) was established in 1977 as part of the Department of Energy. Like its predecessor, the Federal Power Commission, it regulates transmission and wholesale sales of electricity in interstate commerce. As The electricity generated by Mystic Station flows though an interstate transmission network, FERC approval would be required for a sale of Mystic Station. Federal Power Act 16 U.S.C. 824b(a).

The Board, from the cited cases and decisions, concludes that FERC has abandoned the carry-over rate base rule. None of the cited cases stands for that proposition, nor has FERC or its predecessor, the Federal Power Commission ever allowed an acquisition premium into rate base for existing public utility assets.

In ***Gulf Energy & Development Corp.***, 4 F.E.R.C. ¶ 63,008 (March 4, 1977), the Commission stated:

> [T]he fact remains, as the Staff has been at pains to point out, that in 40 years of regulation at the Federal level, no case can be found where the rates chargeable are authorized to include this excessive cost payment by an acquiring utility, over the original investment by the utility which first devoted the property to the public service.

Id at 65,053.

The Board also cites the decision in ***United Gas Pipe Line Co.,*** 25 F.P.C. 26, 54 (1961) for the proposition that FERC is not committed to the carryover rate base rule. The holding is, in fact, inapposite.

> As a matter of fact, never in the history of the Commission [has a premium above net book cost] ever been included in the rate base with amortization of the amounts lodged therein to be made as part of the operating expenses. All the other Commission orders required the charges to be made 'below the line.'

Id at 54.

Similarly, the issue in ***American Telephone and Telegraph v. United States,*** 299 U.S. 232 (1936), was simply whether the FCC's Uniform System of Accounts was arbitrary. The Court found that it was not. It did not stand for the proposition that the carry-over rate base rule is not accepted by FERC, as the previously cited decisions illustrate.

In ***In re: Minnesota Power & Light Co.,*** 43 F.E.R.C. ¶ 61,104 (April 12, 1988) the Commission reaffirmed its commitment to the carry-over base rate, except where "the acquisition provides measurable benefits to ratepayers." The purchaser must show either a reduction in electric rates or like benefits to the ratepayers. ***United Gas Pipe Line Co.,*** 25 F.P.C. 26, 51 (1961). Further, the purchaser has the burden of proof and must make a:

> substantive showing of the character of the benefits ... and adduce proof showing the relationship of excess paid over original costs to the specific consumer benefits it is alleged occurred. It is necessary in order for the dollars set forth in Account 100.5 [which reflect an excess of acquisition cost over original cost of certain properties] to be included in the rate base to establish not only what benefits were conferred on consumers by the making of the excess payments but to present evidence by which these alleged benefits could be measured in terms of such dollars....It is recognized, of course that proof of this character would be difficult to present under any circumstances. However, the fact that it may be difficult or perhaps impossible, to establish the dollar amount of the benefits alleged to have accrued to consumers due to the payments in excess of original cost cannot be accepted as a reason for including the excess amounts in the rate base.

Id at 51.

In ***Mid-Louisiana Gas,*** 7 F.E.R.C. ¶ 61,316 at 61,684, the commission observed:

> Specific dollar benefits are tangible direct results of a sale that are quantifiable in monetary terms. A specific dollar benefit by definition accrues to all customers at acquired facilities. Yet the burden of providing these benefits is strictly construed against the proponent seeking to establish them. Elsewhere the Commission has stated that although the burden may be practically 'impossible' to meet, nevertheless, the burden will be maintained.

In the ***Minnesota*** case the petitioners sought assurances that they would be able to recover in rate base the premium paid above net book cost, but did not receive such assurances. "[the recovery of acquisition costs] is appropriately considered in a proceeding where Northern States proposes to reflect the acquisition premium in its rates." ***Id*** at 61,342. Thus any potential purchaser of Mystic could not receive beforehand assurances that any acquisition premium could be recovered in rate base.

The difficulty of the burden placed on the purchaser is also illustrated by the decision in ***Kansas City Power & Light Co.***, No. EC90-16-00, 53 F.E.R.C ¶ 61,097 at 61,285:

> We find that [the purchaser] has not provided sufficient information to support the alleged benefits of the merger, nor has it explained how rates will be impacted after its proposed rate freeze expires. [The purchaser's] application provides no comparison between the

> present rates and costs of KCP&L and KG&E and those anticipated for the combined companies....Although [the purchaser] has pointed to many alleged benefits of the proposed integration of the two companies (i.e. capacity deferrals, efficient operation, economic dispatch, increased coordination opportunities, improved access to capital markets, administrative and management savings, efficient fuel procurement, rate freezes, shareholder benefits), we believe additional information is necessary. [The purchaser should describe the plan of operation of the combined systems and substantiate the claimed benefits of integration.]"

As this decision illustrates, FERC's primary concern is the impact of a transaction on rates. This decision of FERC directly contradicts the majority's finding no. 10.

In ***Public Service of New Mexico*** 25 F.E.R.C. ¶ 61,469 (1983) there was no sale of existing utility property, rather approval, on an experimental basis, of market rates "for bulk sales and energy sales as part of coordination sales within an experimental zone in the American southwest." ***Id.*** at 62,061. The experiment was to determine whether competitive forces would protect consumers as well as embedded cost ratemaking:

> There is present the required policy objective to establishing these limits to the zone: here it is to determine experimentally whether a competitive market can be created that will increase efficiency and thus protect consumers as well as, or better than, our present regulation of coordination transactions.

Id at 62,060.

The commission was very explicit in pointing out that its purpose was not deregulation:

> [W]e are not asked to "deregulate" all or part of the electric utility transactions that are under our jurisdiction. Rather, the experiment would be a modest modification of our regulation of coordination transactions, undertaken in an attempt to see whether we can *improve* our regulation of such transactions. ***Nor are we asked to adopt the "consenting utility" theory of regulation, which holds that any rate to which a buying and selling utility of equal bargaining power agree is just and reasonable*** (footnote omitted). Rather we are approving the experimental rate because it seems likely to produce a marketplace where rates will be set by the pressure of competition. (emphasis added).

Id at 62,030.

Cities Service Gas Co., 4 F.E.R.C. ¶ 61,268 (1978) dealt not with existing utility assets, but with a purchase of a pipeline which had not previously been owned by a utility. FERC emphasized that it was not providing an exception to the carry-over rate base rule. "This means that gas customers will not be burdened twice by the cost of depreciating the facilities." ***Id.*** at 61,596. ***Pacific Power & Light Co.***, 50 F.P.C. 70 (1973) did not involve a sale, but a swap of properties in a transaction in which the customers of utilities continued to pay for electricity at the same net book cost that were on the books of the utilities before the swap. In ***Pennsylvania Power and Light,*** 32 F.P.C. 1263 (1964), the purchaser was allowed to eliminate the acquisition adjustment by a debit to other income deduction. There was no indication that the premium would be allowed in rate base. ***Baltimore Gas & Electric Co.,*** 44 F.P.C. 1601 (1970), as pointed out in ***Gulf Energy & Development Corp., supra,*** 65,053 was an accounting case and did not allow a premium at above net book cost into rate base.

Further, it must be noted that the latter three decisions were all prior to FERC's decision in ***Gulf Energy,*** which stated unequivocally that no previous decisions had allowed an acquiring utility to include in rate base a premium over net book cost by the utility which first devoted the property to public service.

Public Service Co. of Indiana, 51 F.E.R.C. ¶ 61,367 (1990) did not deal with sale of existing utility assets, but rather with a sale of power from plants which were underutilized. The rationale for the decision was that the commission concluded that the plan "represent[ed] a positive contribution to the Commission's goal of ensuring an adequate and reliable supply of electricity at the lowest possible cost to consumers in the long run." ***Id*** at 62,224. ***Ocean State Power,*** 44 F.E.R.C. ¶ 61,261 (1988) did not involve the sale of existing utility assets but rather addressed the issue of rates to be approved for a brand new generating station which had never been in rate base.

It's clear from the foregoing decisions of both the DPU and FERC, that Dr. Chiccetti appellant's expert witness, was correct in his assessment that:

> [T]he fundamental concept that was achieved by the compromise between the President and the Congress in 1978 under the National Energy Act was to introduce market forces at the margin, that is for new stuff, while continuing to keep the historic pricing practices in place for existing sources of energy including electric power plants. The philosophy behind the regulatory changes was to keep the best of the old, and the best of the new in such a fashion as to deliver electricity to the consumers at the lowest possible price.

Based on the precedent outstanding at both the State and Federal level, no purchaser could have reasonably anticipated that an acquisition premium would have been allowed by the regulators. There have been no instances where an acquisition premium has been allowed in rate base for the purchase of existing utility property at a premium over net book cost.

Although no evidence was presented by the assessors to the Board on the issue, the Board finds that "the pool of buyers for Mystic was not limited to those within Massachusetts, but extended to other retail investor-owned utilities within New England (and even beyond)." Who these buyers are remains a mystery. The Board further finds that these other New England states were not committed to the carryover rate base rule for generating plant already in rate base. For this proposition cases are cited from New Hampshire, Maine, Rhode Island and Vermont. The assessors, themselves, in their brief admit, however, that the cited cases do not "expressly address[] the circumstances of the sale of a power plant at greater than net book cost." Further, these states have traditionally been considered "original cost" jurisdictions. ***see,*** Bonbright, Danielsen and Kamerschen, ***Principles of Public Utility Rates*** (1988) at 229-30.

D. The Regulatory Compact.

Dr. Michael Yokell, appellee's expert economist concurred in the appellant's characterization of the regulatory compact as follows:

> The regulatory compact that has been in effect for decades in this country is that in exchange for providing service to all who demand it and for limiting monopoly profits to the cost of capital, utilities will have the opportunity to recover all reasonably and prudently incurred investment costs plus a fair rate of return.

Dr. Yokell further concurred that a test that is applied by FERC and by state regulatory agencies is whether a particular transaction will benefit the ratepayers. He also testified that he would not have done his job as a competent professional if he advised a utility without taking into account the probable actions of the regulating authorities.

He answered the following question posed to him:

> Q. Now if your analysis showed that the effect on a group of ratepayers would be negative, that would lead you to the conclusion, would it not, that the chances of obtaining regulatory approval were not good?
>
> A. Yes, I think that's true if all things were taken into account properly and the net result of the transaction was that it was negative for a particular group of ratepayers, and then the regulatory body that regulated that particular group of ratepayers would probably look askance at that transaction.

The unrebutted testimony of appellant's expert appraisal witness Mr. John P. Kelly was that a purchase of Mystic Station at the values testified to by Mr. Taylor in his original appraisal would have required a rate increase of between 49.5% and 86.2% to support the incremental investment. The average for the years at issue was 68.7%. As pointed out by the appellee's own appraisal expert, the regulatory authorities would "probably look askance at that transaction."

Putting aside the demonstrated commitment of the regulatory authorities to the carry-over rate base rule, to have concluded that regulatory approval could have been obtained would have been irrational in light of the market as it existed. Mystic Station was an integral part of the NEPOOL network of generating plants supplying power throughout New England. As such, virtually all users of electricity had the benefit of the electricity generated by Mystic at rates based on embedded costs, or the net book value of Mystic. Inclusion of any acquisition premium in rate base would inevitably have led to an increase in rates for all New England ratepayers, without increasing by one megawatt the supply of electricity generated. There is little likelihood that a purchaser could sustain its burden of proof before FERC or the DPU to show a benefit to the ratepayers, sufficient to justify inclusion of the acquisition premium in rate base. As the previous FERC decisions demonstrate, its primary concern is that a purchaser demonstrate quantifiable dollar benefits accruing to the ratepayers as a result of the proposed purchase.

E. The Concept of "Avoided Cost."

Even if the DPU and FERC had applied the new regulatory regime to pre-existing utility assets, the majority misapprehends, and therefore incorrectly applies the critical concept of "avoided cost." Under PURPA, utilities were required to purchase power from QF's at rates which did not exceed the "incremental cost" to the utility of any alternative source of power. 16 U.S.C 824a-3. See also D.P.U. 84-276, pp. 1-2 (1985). This "incremental cost of alternative electric energy" is called "avoided cost" 18 C.F.R. § 92.101 (b)(6). It is the opinion of the assessors, their expert, Mr. Taylor; and the Board, that avoided cost equates to replacement cost new and therefore any purchase price above net book cost would be justified and approved by the regulatory agencies as long as it was less than replacement cost new.[50] Such an assumption is simplistic and could only be arrived at in a vacuum, completely oblivious to the changes which the DPU and FERC sought to implement based on PURPA.

The goal of PURPA was to stimulate the development of alternative and cheaper forms of energy, in keeping with the ultimate goal of electric utility regulation, namely provision of electricity at the "lowest possible cost to the consumer." ***Pacific Gas and Electric Company,*** 38 F.E.R.C. ¶ 61,781 at 61,789 (1987). Rather than justifying a purchase at any price, "avoided cost" is a ceiling, which limits a utility to lowest cost options. The goal of providing electricity to the consumer at the least possible cost would be vitiated if any price, less than replacement cost, were to be validated under the Board's concept of replacement cost. It also flies in the face of the goal of PURPA to stimulate alternative and cheaper sources of power. The broader purpose of PURPA was the move toward injecting competition into the marketplace

So the avoided cost is the utility's ceiling cost, but it has other options that may be lower in cost. And the DPU requires that the utility select according to certain economic analytical criteria the lowest cost alternative.

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[50] As previously shown, the Board's findings for two years at issue are contrary to its own definition of avoided cost. The Board finds that both the FERC and DPU would approve a sale in which the sale price was greater than avoided cost.

In the same vein FERC requires that in determining "avoided cost" all possible sources of needed power must be taken into account, including purchases from wholesale sources. In ***Regulations Governing Bidding Programs: Notice of Proposed Rulemaking,*** FERC Docket No. RM88-5-000 (March 16, 1988) FERC commented that looking at what it would cost to construct a new plant "may not accurately identify the utility's avoided cost because it may not consider the utility's opportunities to purchase lower cost electric energy from alternative sources." ***Id*** at 10.

In its Interim Order and Requests for Comments, D.P.U. 86-36-A, the DPU specifically recognized that all sources of needed power must be taken into account.

> From the electric utilities' perspective, the revised PURPA regulations [D.P.U. 86-276-B (1986)] compel them to consider the option of making purchases of power from QFs in designing their long-term supply strategy. Thus, in addition to conservation and load management, wholesale power purchases from other electric utilities, and generating plant construction, utilities must determine how much of their power requirement can be satisfied through purchases from QFs."

Id at 20.

In its analysis, the Department further stated:

> As we have continually indicated in past Orders, it is essential that utilities adopt a balanced supply and demand planning approach which will ensure that they examine all cost-effective options for meeting future demand.

> ***Fitchburg gas and Electric Light Company,*** D.P.U. 1270/1414, pp. 107-110 (1983). Such options obviously include conservation and load management as well a power purchases from third-party vendors.
>
> It has always been the Department's expectation and requirement that utility power planning decisions be conducted within a framework that minimizes costs to ratepayers by fully evaluating cost-effective alternatives to the construction of utility-owned generating facilities. Such facilities should be constructed only when they are determined to be the most cost-effective option for meeting consumer demand. In many respects, it is because utilities exercised their monopoly power to preclude development of QF generation, and ignored the cost-effectiveness of that option, that Section 210 of PURPA was enacted. It was also recognition of the failure of electric utilities in Massachusetts to incorporate cost-effective QF generation into their supply mix which prompted the Department to implement its revised PURPA regulations. It is through these revised regulations and the bidding system they implement that the Department hopes to insure that cost effective QF generating alternatives will be considered as equally valid approaches to supply planning.

Id. at 71.

> In addition, the pre-approval contract approach could help promote the establishment of a competitive electric generation market and encourage least-cost electricity production in accordance with our economic efficiency criterion.

Id. at 80.

In D.P.U. 86-36-C, the Department reiterates its finding in 86-36-A concerning a pre-approval contract approach. "to the extent a QF bidding process or other process exists, which uses market forces to rank alternative resources and determine prices for them, that process is used to test the utilities proposal for construction, operation and cost recovery, and would treat utility and alternative resource options consistently." ***Id.*** at 59.

The Department further stated "Avoided costs are indeed calculated using a production model to develop projections of avoided energy costs. But avoided capacity and capitalized energy costs must be included as well; it is axiomatic that the sum of capacity and energy costs must not exceed the least-cost available option." ***Id*** at 67.

> Further, the price approved by the Department is unlikely to be as high as full avoided cost. The Department expects that use of a bid solicitation process to aid in determining the least cost supplier will constitute a key component of a successful pre-approval contract approach. To be successful in a solicitation process, a bidder must underbid this least-cost utility option. Typically one would expect that if a utility enters a sealed solicitation, and bids above the cost a competitor proposes, the utility will not win the bid. The bidding process puts pressure on all potential suppliers to keep their asking prices down. Experience to date bears out that a bid process brings forth proposals at less than the utility's avoided cost. The bids BECo [Boston Edison Company] received in response to its first QF solicitation ran about 60-70 percent of BECo's best estimate of its own avoided cost."

Id at 68.

While the assessors and the Board justify their conclusions by reference to D.P.U. 86-36-C, not only do their conclusions ignore its plain language, but actually fly in the face of it. Simply put, the purpose is to introduce competition into the marketplace through a competitive bidding process that would bring new producers into the marketplace. It seeks to discourage capital intensive investment, and "expects that use of a bid solicitation process to aid in determining the least-cost supplier will constitute a key component of a successful pre-approval contract approach." ***Id.***

The Board finds it likely that the DPU would approve the purchase of Mystic Station at a price which equates to net replacement cost less depreciation, which in some years is less than replacement cost new, and in some years more. But it ignores the *sine que non* of a successful pre-contract approval approach, the bid solicitation. It also ignores the DPU's finding that experience bears out that a bid process brings forth proposals less than avoided cost, and in the case of Boston Edison, 60%-70% below its own best estimate of avoided cost. I'm aware that the pre-approval process was only applicable for the last year at issue. However the Board does not make such fine distinctions and I seek only to parallel their analysis with my own.

G. **Market Based Analysis.**

Dr. Charles J. Cicchetti, expert witness for the appellant, developed an opinion of value utilizing an economic analysis similar to that which would have been utilized by a prospective purchaser, whether an investor owned utility, IPP or MMWEC. "In broad terms, the approach used here to value Mystic is similar to an avoided cost or differential revenue requirements analysis that a utility would perform when considering an investment decision." Thus, "Mystic's value to the utility purchaser is determined by the value of the purchaser's most economic alternative." Unlike the Board which justifies its decision in terms of a market based regime, but completely ignores what was happening in that market, Dr. Cicchetti, in a very detailed fashion performed his evaluation in terms of market forces, and by specific reference to the bids that were forthcoming in response to Boston Edison's RFP's which were cited in DPU 86-36-C.

However, the Board chose to ignore Dr. Cicchetti's testimony, just as it had ignored D.P.U. 93-167-A, and the stipulations submitted by the parties. In my estimation Dr. Cicchetti's *curriculum vitae* was the most impressive of any witness and his testimony the most probative concerning changes brought about by PURPA and on regulatory issues in general.[51] The Board, in rejecting it, disingenuously chose to seize on an answer of Dr. Cicchetti in response to a question posed to him. As stated by the Board the answer was "'my definition of fair market value' is what a willing buyer would pay and what a willing seller would sell it for if compelled to sell." As a preliminary matter, the Board does not quote his entire response and thus quotes him out of context. The full response was:

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[51] I think it is important that Dr. Cicchetti's credentials be set out. To me it is unfathomable that his testimony was not given any weight by

> And in my calculation of fair market value, my definition of fair market value, I looked at what a willing buyer would pay and what a willing seller would sell it for if compelled to sell in the face of such an evolving and increasingly more competitive market as new entrants come in.

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the Board. Dr. Cicchetti is a managing partner of the consulting firm Putnam, Hayes & Bartlett, where he leads the consulting practice in the energy and environmental fields. He is also an adjunct professor of economics at the University of Southern California. Prior to his current position, Dr. Cicchetti served as deputy director of the Energy and Environmental Policy Center at Harvard University, and as an officer or partner in other consulting firms, a professor of economics and environmental science at the University of Wisconsin, and from 1977 to 1980, Chairman of the Public Service Commission of Wisconsin. Dr. Cicchetti serves on the U.S. Chamber of Commerce's Natural Resources and Energy Advisory Committee, and was a founding member of the Public Interest Economic Foundation. While serving as a member of the Executive Committee of the National Association of Regulatory Commissioners he chaired a committee of the state regulators for the fifty states and the District of Columbia to advise FERC on how to develop rules and policies that would be required for implementation of PURPA. At the request of the chairman of the Federal Energy Regulatory Commission he was invited to testify on three or four occasions in the mid to late 80's on issues that involved introducing independent power producers to the electric utility industry. He has also given expert testimony before both FERC and virtually every state regulatory commission, as well as numerous state and federal courts. In addition to investor owned utilities, he has also appeared on behalf of other corporations, state attorneys general and consumer and environmental groups. Additionally he has authored numerous books and articles, principally in the energy area on electric utility pricing, regulation practices and ways of introducing competition into the regulated utility industry.

First, Dr. Cicchetti's statement is couched in terms of a willing buyer and a willing seller. There is no compulsion in such a transaction. It's clear when the full statement is considered that Dr. Cicchetti was referring to a sale that must perforce take place in a then evolving market. Perhaps the use of the term "compelled" was inartful, but for the Board to seize on a few lines of transcript, out of the over 10,000 which comprised Dr. Cicchetti’s testimony, as a justification for completely ignoring his testimony illustrates, in a very obvious way, the slipshod nature in which the Board approached this very difficult and important case. On *voir dire,* Dr. Cicchetti testified that as an expert witness he had previously appeared to offer an expert opinion on the distinction between the terms "fair market value" and "fair market price." I think a person who can appreciate the subtleties between those definitions can properly apprehend the meaning of the term fair market value for Massachusetts purposes. In addition it is clear from the entire testimony of Dr. Cicchetti that he is well familiar with the definition, and his appraisal report sets it out precisely. Consideration, on the merits, of the evidence presented by Dr. Cicchetti would have contributed to a more reasoned decision which would have benefited all parties concerned.

For his valuation analysis Dr. Cicchetti put aside the carry-over rate base rule for all purposes, assuming *arguendo* that the carry-over rate base rule did not apply. Since each hypothetical buyer, whether an IOU, an IPP, MMWEC or a publicly owned utility, had capacity alternatives, he correctly performed his analysis by taking account of the competitive market for capacity alternatives. Unlike the Board, which focused only on replacement cost, and indeed found values in excess of replacement cost, Dr. Cicchetti attempted to derive a market price, determined by forces of supply and demand. A utility with a need for capacity has a number of alternatives. It can build new capacity, it can implement demand-side management to eliminate the need for capacity, it can purchase capacity from another utility, or it can contract with a QF or IPP to provide the capacity. The value of Mystic Station to a purchaser is equal to the value of the most economic alternative. This is precisely the type of analysis that a utility would undertake pursuant to D.P.U. 86-36-C.

For his analysis concerning an IOU, Dr. Cicchetti assumed that a prospective purchaser would value Mystic Station by reference to constructing a generating facility of equivalent capacity. He assumed that for the first three years at issue the alternative would be a coal plant, and for the subsequent years a combined cycle facility. In completing his analysis Dr. Cicchetti took into account the differences in efficiency between Mystic Station and the replacement facility, as well as between Mystic 7 and units 4, 5 and 6. He also factored in transmission costs, accounting for the fact that the latter units are not NEPOOL planned and thus do not enjoy the "postage stamp" rate. Dr. Cicchetti utilized publicly available information, such as filings with the DPU and Energy Facility Citing Council in developing his opinion of value. He also took into account that the appropriate cost comparison is not between what it would cost to purchase Mystic Station today and the cost to construct a new replacement facility today. The reality of long-range planning by utilities is that they plan for capacity needs several years out. Utilities cannot wait until capacity is needed in order to begin construction. Permitting and construction will start several years before the power is needed. NEPOOL's *Generating Task Force Long-Range Study Assumptions* (December 1989) reports a lead time of five years before a new combined cycle plant can be brought on line. Consequently, a utility purchasing Mystic Station today would be doing so to accommodate capacity needs several years out. Dr. Cicchetti properly factored this reality into his analysis. Dr. Cicchetti determined the capital cost of the replacement facility, as well as the present value of the total operating costs, fuel, O&M, and transmission costs. He compared those with the total costs to operate Mystic on each of the dates in issue. He then determined the differential in costs, and subtracted those from the cost of the replacement facility. As an example, because of its greater efficiency, he determined that for a new combined cycle facility, as of 1/1/89, there would be a savings of $92,000,000 in fuel costs, and $79,000,000 in O&M costs. His determination of value for Mystic 7 was $121,000,000 and $137,000,000 for the entire Mystic Station. Using this analysis, which is based on market data, Dr. Cicchetti determined values that were ***less than*** rate base for all years. Consideration of MMWEC, other government owned utilities, and IPP's is taken up in the following section.

III. There Was Little Likelihood of a Purchase of any Portion of Mystic Station by MMWEC, by a Public Utility or by an IPP.

A. Other Than MMWEC and Ocean State Power, There is No Evidence to Support a Finding that Other Public Utilities or IPP's Were Likely Purchasers.

In reaching its conclusion, with a 2:1 probability that Mystic Station could be sold at price above rate base, the Board posits the existence of public utilities other than MMWEC and assumes them to be likely purchasers.[52] I submit there are none. Obviously those Massachusetts municipal utilities which are members of MMWEC must be factored out, as their needs would be subsumed within the those of MMWEC. There are other municipal utilities within New England, which although members of NEPOOL, are not members of MMWEC. And there are other municipal utilities outside of New England who might conceivably purchase Mystic Station.

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[52] In weighting replacement cost and rate base by a 2:1 ratio, I assume that the Board combined the probability of regulatory change, and of purchase by an IOU, with the probability of purchase by an unregulated utility. I think there was an obligation on the Board to indicate the weight given by it to the possibility of purchase by an IOU or by an unregulated utility. While I understand that precision may not be possible, or expected, in reaching their probability assessment, presumably the Board made some evaluation of the respective probabilities. I think it would be helpful to the parties be apprised of those determinations.

Under ***Montaup Electric Company,*** the burden of production of evidence is on the assessors to show that there is a possibility of finding a buyer which is not a regulated utility. "The burden of production requires the party who bears it to come forward with some evidence that a fact exists. If the party does not satisfy this burden, the court will decide the issue against it...." PAUL J. LIACOS, HANDBOOK OF MASSACHUSETTS EVIDENCE §5.1 (6th ed. 1994). To shift the burden of production to the appellant, the appellee must introduce sufficient evidence to establish a prima facie case ***Id.*** § 5.1, at 196. Prima facie evidence is described as "evidence which, standing alone and unexplained, maintains the proposition and warrants the conclusion to support which it is introduced. If such evidence is not in any way met or controlled, and relates to the decisive issue in the case, a verdict or finding is required in accordance with its effect." LIACOS, ***supra***, §5.8.3, at 229. The Board finds that the appellee has established a prima facie case merely by advancing the possibility that unregulated purchasers exist. It does not identify any by name, except for Ocean State Power, the only IPP constructed in New England during the years at issue. And although in its finding no. 31 the Board found that IPP's were a factor in the market during all years at issue, both Dr. Yokell and Dr. Cicchetti were in agreement that IPP's were not a factor in the marketplace until fiscal year 1987. If all that is necessary to establish a prima facie case is to state the existence of unregulated utilities in the market place, the appellant could never prevail for it would be faced with an impossible burden. It would have to produce evidence to prove a negative, that there was no unregulated utility anywhere which was a likely purchaser of Edison. While such a notion is absurd, it is the logical consequence of a finding that all that is necessary is for the appellee to posit the mere existence of an unregulated purchaser. As a minimum, to shift the burden of production, the appellee should be required to identify a specific non-regulated utility and produce some evidence that it had some capacity needs, as well as the resources necessary to purchase a portion of Mystic Station. While these considerations apply to utilities located in New England, and beyond, for utilities located beyond New England there is an additional consideration, and that is the transmission charges that would be incurred by such a purchaser. Mystic 7, as a NEPOOL planned unit enjoys a "postage stamp" rate for transmission costs throughout the NEPOOL system. Obviously a purchaser outside of NEPOOL would not enjoy this advantage, and as a consequence a purchase of Mystic Station would be less attractive. For the foregoing reasons, I feel that it is only MMWEC and Ocean State Power which are to be given any consideration as likely unregulated purchasers.

My first observation is that even if it were shown that Mystic Station were to be purchased by an unregulated purchaser, or any purchaser for that matter, the values found by the Board are counter-cyclical to what would be expected from a buyer responding to market signals. Dr. Cicchetti, in his appraisal report included a graph which illustrated oil prices forecast for the period 1983 through 1989. The projections fell dramatically from 1983 through 1989, with the exception of an increase in 1988 over 1987. Fuel costs are by far the largest variable costs in the production of electricity. As Mystic 4, 5 and 6 are fired solely by oil, and Mystic 7 partly by oil, it would be expected that there would exist an inverse relationship between projected fuel costs and the value of Mystic Station. But the Board finds exactly the opposite.

Even if there is a differential in cost between distillate fuel and No. 2 fuel, at any given time, a prospective purchaser would find an inverse, and not a direct relationship between the level of projected oil prices and the value of Mystic Station. The Board finds, however, that as of 1 December 1983, when oil prices are projected at their highest levels, Mystic Station has its highest value. As oil prices fall, rather than Mystic becoming more valuable it becomes less valuable. Under the Board's findings the value increases dramatically in fiscal year 1988. While not precisely tracking the oil increase forecast in 1988 it does reinforce the direct nature of the values found by the Board. If the basis for the Board's decision is a subjective determination of the probability of a purchase at a given price, this is objective evidence that the probability would be very low, if it existed at all at the values found by the Board for those particular years.

B. MMWEC

Concerning MMWEC, the Board found that for all years at issue MMWEC had the financial resources to purchase 400 megawatts of capacity of Mystic Station. As that equates to approximately 41% of Mystic's capacity in dollar terms, it equates to from $439,282,546 to $264,552,369, depending upon the year. The average is $339,731,086. While Mr. Taylor testified that he "had never heard anything that would lead me to believe that there was any reason why MMWEC couldn't have financed any type of facility that they entered into contracts for ..." , he provided no documentary evidence in support of his opinion. Dr. Cicchetti's opinion was to the contrary. It was his opinion that during the latter half of the 1980's MMWEC was severely financially restrained as a result of the "financial hemorrhaging" that was taking place because of delay's in bringing Seabrook 1 on line. MMWEC's own pronouncement, confirms this. The Putnam, Hayes & Barlett, Inc. report references MMWEC's equity participation in the Hydro-Quebec Phase II project in 1988. In its 1988

Annual Report, at p.6. MMWEC is quoted as stating that its ability to arrange financing for the $2.5 million dollar project was an "extraordinary accomplishment, given the Seabrook-related uncertainties facing MMWEC at the time." If raising capital to finance $2.5 million dollars of equity participation was difficult during the latter half of the 1980's certainly the prospect of raising hundreds of millions of dollars would have been out of the question.

The Board also misstates the capacity needs of MMWEC during this period. Mr. Taylor testified that MMWEC had capacity needs of between 200 MW and 400 MW during this period. The Board predictably picks the higher number without any stated basis for doing so. As the burden of production is initially on the assessors, it would have been more appropriate to select the lower number, or at most 300 MW. Dr. Cicchetti countered this testimony by reference to published MMWEC documents which indicated that because of MMWEC's fuel and unit diversity objectives even a purchase of 200 MW would have been unlikely. Contrary to the Board's representation that Mr. Taylor "observed that municipal systems were projecting a need for additional capacity during the years at issue," at least for the early years, the testimony was to the contrary. Mr. Taylor characterized the early 80's, the initial years at issue, as an evolutionary period, characterized by a tremendous excess in capacity and that "[t]here were a few years there if you look at projection of the load in New England, you'll see that the amount of capacity that's available is substantially above even the reserve requirement the pool has identified as needed." In fact the ***NEPOOL Forecast Report of Capacity, Energy, Loads and Transmission*** (the "CELT" report), as referenced in Dr. Cicchetti's appraisal report, shows that for all years at issue NEPOOL perceived itself to have more than adequate resources to carry it through 1995. This includes a reserve margin, the difference between capability and peak, as a percentage of peak, generally above 20%. In fact through 1987, reserve margins are projected at between 25% and 50%. Further, in examining the power contract purchases made by MMWEC during this period, Dr. Cicchetti found them to impute a value for Mystic Station below rate base value. While MMEC may enjoy certain tax advantages, that does not mean it will not behave in an economically rational manner. The evidence unequivocally establishes that MMWEC had no capacity need such that it would be a likely purchaser of any portion of Mystic Station.

There is a further perhaps more cogent reason why MMWEC would not pay more than rate base for any portion of Mystic Station. As a member of NEPOOL, MMWEC is entitled under the NEPOOL agreement to purchase Mystic at its net book cost. It would make absolutely no sense then for MMWEC, or any member of NEPOOL to pay more.

Lastly, FERC's opinion in ***Baltimore Gas & Electric Company,*** 40 FERC ¶ 61,169 (1987) capsulizes the reason why

MMWEC would not pay more than rate base. The case dealt with an application of Baltimore Gas & Electric Company ("BG&E") to auction its western transmission capability through a sealed bid procedure. The commission found that the procedure will always produce a rate that exists within a zone of reasonableness. It was the commission's reasoning that:

> The upper bound of the zone of reasonableness will always be the alternative cost of each bidder of acquiring the power at a FERC-approved rate from pool resources which represent a wide array of generating resources across the region....***The winning bid in our auction scheme should always be less than or equal to the cost of acquiring power from the pool because no rational utility would bid a price that exceeds these alternative costs.*** (emphasis added)

Id at 61,538.

The electricity generated by Mystic Station is currently available to MMWEC at rate base. Its purchase would not add one megawatt to the NEPOOL capacity. As a rational purchaser why would it "bid a price that exceeds these alternative costs"?

C. IPP's

Dr. Cicchetti estimated the value of Mystic as an IPP under the assumption that it received the pricing terms embodied in the Ocean State Power #1 contract ("OSP 1"). Power sales agreements for output were signed in late 1985. He calculated the price a purchaser would be willing to pay for Mystic, given knowledge of the terms of the OSP 1 contract between Ocean State Power and Mystic Station. His analysis suggested a value of $220,000,000. The identical analysis, but using the the terms of the OSP #2 in 1988 suggests a value of only $6,000,000.

Dr. Cicchetti then utilized the QF solicitation data derived from the ceiling prices in Edison's RFP #1 and RFP #2. This market derived data would define the upper boundaries on market price during the period. Under RFP # 1 he determined a value for Mystic station at $226,000,000. Under RFP #2, no market value was imputed to Mystic.

The purchase of Mystic Station at even rate base was also not a realistic option for an IPP. An IPP would respond no differently to the market determined values than any other prospective purchaser. It is not an option to purchase Mystic and then sell the power back to Boston Edison at a price above rate base. The Power Sales Agreement would have to be approved by FERC, and it would not be if it resulted in an increase in cost to the ratepayers.

D. Even Under Assumptions Most Favovable to the Assessors, There is No Showing That There Exists a Market for the Capacity of Mystic Station.

The capacity of Mystic station is 970 MW. There is no evidence of any likelihood of a purchase of more than 400 MW of that capacity and that is by MMWEC. As shown, even that assumption is unrealistic.

IV. Conclusion

Based on the evidence in this case, the appropriate decision on the issue of value was a decision for the appellant at the rate base values as stipulated to by the parties in their First and Fourth Stipulation of Facts. I feel the evidence is overwhelming that neither the DPU nor FERC would have approved a purchase at above rate base value. I feel further that the evidence established that the value in the marketplace, apart from any considerations of carryover rate base, was below rate base. As such even an unregulated purchser, such as MMWEC or an IPP, would not have paid more.

The Monsanto Property

I will just briefly comment on this aspect of the Board's decision. This property was conveyed on the June 20, 1983, approximately 18 months before the first assessment date in issue. The purchase price was $1,100,000. In an arms-length transaction the sale of the subject property is the best evidence of value. Yet for fiscal years 1986 and 1987 the Board finds that the value of the property has almost tripled, with further increases in the subsequent years. Despite the findings by the Board, I see no evidence that the transaction was not arms-length. There is also a new valuation theory expounded here that somehow it was not a sale of real estate, but a division of rights. I also am unfamiliar with the theory that the retention of rights, in this case easements, is a receipt of additional consideration by the seller. The seller already possesses an interest under the easements. How could that be a ***receipt*** of consideration? The proper focus is the interest that was exchanged. The buyer received an encumbered fee, so the consideration was reduced accordingly. The Board valued the parcel as if it was unencumbered. I would have entered a decision at the value determined by the appellant's expert, Martin Coleman. Those were, $1,203,500 in fiscal years 1986 and 1987; and $2,407,000 in fiscal years 1988 through 1990.